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NEWS BRIEF

Hoskyns quits No.10 team

JOHN HOSKYNs, founder of the Hoskyns Group, has left his position as head of the Prime Minister's Policy Unit after three years.

It is expected that he will again devote his working time to the computer systems and services group which bears his name and which was taken over by the US Martin Marietta Corp in 1975.

New Winchester

A NEW series of 5 1/4-inch Winchester disc drives with a capacity of 26.67 Mbytes, more than half as great again as the previous series, has been announced by Rodime, the only UK manufacturer of Winchester discs and drives. Called the RO 200 Series, the drives are a natural development of the preceding RO 100 Series.

Unions approve

APPROVAL of a two-year new technology agreement with the government has been given by the Council of Civil Service Unions. All but two of the nine unions voted in favour of the pact.

The agreement stipulates that there will be no compulsory redundancies because of the introduction of new technology.

Eire factory shuts

IRISH factory of US point-of-sale manufacturer Data Terminal Systems has been closed. The £4 million plant, which received £1.4 million in Irish state investment funds, was opened just over two years ago.

Indian target

SYSTEM X is high on the agenda during the Indian Prime Minister Indira Gandhi's visit to the UK this week. India is the first export target for System X and the tender competition closes this week.

Thorn-EMI takes over Software Sciences and Datasolve in surprise deal

Services pull-out by BOC

by Boris Sedacca

THE BOC group is making a total withdrawal from the computer services market. Electronics group Thorn-EMI has concluded an agreement in principle to take over the majority of BOC's computer services division.

The shock announcement came

this week some months after BOC's private decision last October to concentrate on its main businesses.

"If you study what BOC has done over the last year, you can see that it has decided to concentrate on its core business, that is welding, gas, medical and carbides," says Colin Southgate, chief executive at BOC's computer services division.

"Although I can say in all honesty that we were meeting the targets we were set, the company made the decision that computer services does not fit in with its structure and strategy," he added.

The sell-off includes software house Software Sciences and Bureau BOC Datasolve, both wholly-owned subsidiaries. They have combined annual sales of £30 million and employ 920 people.

The activities to be acquired also include Software Sciences' developing interests in retail point-of-sale applications, as well as contract maintenance services. BOC itself bought Software Sciences in 1978.

Also going will be Knight Computer Services, a major contract recruitment agency. It is not being taken by Thorn-EMI and will be sold to a consortium of private



SOUTHGATE... "Computer services does not fit in."

buyers, probably including its existing management.

BOC also has holdings in three other computer services companies - 51% of British Medical Data Systems, 41% of the Stock Exchange's Datastream service, and 40% of software house Triad Computing Services.

BOC's own computing requirements are provided by a separate internal facility, which employs about 100 DP staff.

Southgate will spend one week a month as non-executive chairman of the two companies which are being integrated into Thorn-EMI. The rest of his time will go to the remainder of the BOC computer services holdings. He says that BOC may decide to hang on to these minority investments depending on negotiations with its joint venture partners.

Commenting on the takeover,

whose price has not been revealed, Sir William Barlow, ex-chairman of the Post office and now chairman of the Thorn-EMI Engineering group, said: "Part of Thorn-EMI's corporate strategy is to expand into high technology areas, of which software and services is an increasingly important element."

"This acquisition of one of the UK's most highly regarded systems and bureau operations would represent a key move in the development of Thorn-EMI's expanding interests in information technology."

When negotiations between BOC and Thorn-EMI are completed, the activities of Datasolve and Software Sciences will continue to be separate. They will form an independent division within the engineering group of Thorn-EMI.



BARLOW... Thorn-EMI wants to expand into high technology.

Pirates scrump the Apple crop

by Howard Karten

THE first manufacturing site for Apple Computer was the garage of a founder, Stephen Jobs. Now once again, Apple computers are being manufactured in garages. This time, however, they belong to pirates, who are producing unauthorised versions of one of the world's best selling personal computers - Apple Computer's lawyers are gearing up to stop them.

So far Apple has identified about six small companies in Taiwan and Hong Kong that are infringing its patents by manufacturing the Apple design and selling it either under the Apple logo or under another with a strong similarity to the word Apple. An example is Apollo.

The genuine company does not yet have an idea of the volume being shipped, although the amounts are apparently quite small. The Apple II computer is so far the only one being bootlegged, and so far it is turning up only in the Far East.

As an industry leader and with one of the industry's most expensive products Apple is apparently the only major firm to suffer such pirating attempts yet. Spokesman Fred Hoar said he was unaware of or of any other attempts at piracy, or of any sort of industry-wide task force.

Illicit copying of both products and brand images is rife in many industries, ranging from brake linings to cosmetics. Most of it stems from Taiwan where, despite increased Western protests, little is being done to stop it.

Kit Spencer, vice-president of marketing and former general manager of Commodore's UK computer systems division, said that to the best of his knowledge Commodore computers are not being counterfeited.

IBM to kill off its 'Old Faithful'

by Kevan Pearson

IBM is expected today to signal the end of its 3033 mainframe by two additions to the 3081 range of processors. The company is believed to be launching two processors of about five million instructions a second (mips) and seven mips respectively.

The new machines, half each of the two existing models D and K of the 3081 family, will effectively kill the 3033 range. This extends from just over three mips for the 3033S to nine mips for the 3033MP.

According to some industry sources IBM has three machines to announce, with a smaller processor of about 3.5 mips due later.

IBM cut the price of the 3033 last November when it launched the 3081K. The move was de-



MITCHELL... "Price will not fall too much."

signed to tempt existing lessees of the old machine to outright purchase from IBM. The company could repeat the action to switch

the remainder to user ownership and help ensure that they do not come on the market at prices likely to compete heavily with the new announcements.

There are about 125 of the 3033 model in the UK, out of a total of about 2,500 worldwide. The price of a new 3033U (five mips) is just under £1 million. A second-hand machine costs around £600,000. But Parry Mitchell, chairman of United Leasing, a major independent IBM lessor, says that the price will not fall too much. "It has already fallen to anticompetitive levels," he says.

Mitchell predicts a healthy second user leasing market for the 3033 for several years. The machine was launched in 1977.

Prices for the new 3081 processors are likely to be in the range of

£600,000 to £750,000 for the five mips machine, code named the 3081B. First shipments are expected in 1983, volume shipments in 1984.

IBM may also announce further software enhancements for the 3081, says Brian Burch, director of large systems marketing at National Advanced Systems. "IBM could announce a new set of instructions to speed up the processing of relational databases," Burch believes.

Relational software for MVS could kill the 3033 even earlier, says Burch. It will be available only on the 3081 family, running under Extended Architecture (MVS/XA). All the new machines will support MVS/XA, but the 3033 will not and hence its path to a relational database is barred.

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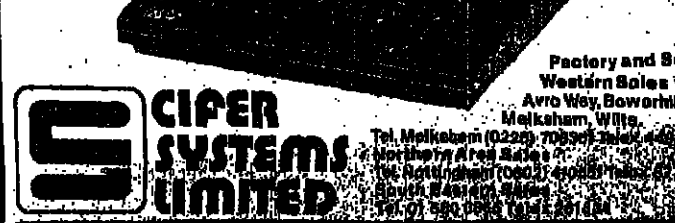
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MP slams lack of control over police systems

by Donald Kennett and Kevan Pearson

SECRETIVE use of computers by the police and secret services has been slammed by MP Michael Meacher. Speaking at the launch of a publication from the Edinburgh-based Technical Authors Group (TAG), Meacher said this week that systems designed to hold vast quantities of personal information were being implemented without appropriate legislation to control their use.

"It has all happened inside the Home Office, possibly without reference to politicians," he said.

Meacher says he is open to persuasion on whether various types of computer system holding various kinds of personal information were a good or a bad thing.

However, he was certain that there had been abuses of sensitive personal information from existing systems, he added, and that there had been abuses of confidentiality. Bribes had been taken to delete criminal records from computer files and false statements had been made widely available, Meacher added.

Above all, he said, there was no access for people affected to check on the accuracy of information held on them.

The Scottish research group highlighted concern for police use of vehicle registration information. According to TAG (S) in its pamphlet *The Police Use of Computers*, the number of inquiries made on the Police National Computer about stolen or suspect vehicles is 32 times as great as the number of vehicles reported stolen.

The report further claims that of the 11 reasons why a car may appear on the computer's stolen or

suspect index at least three are used solely by Special Branch.

The Technical Authors Group consists of six people with a mixture of experience in various scientific fields including three data processing professionals, a philosopher, a fisheries expert and a nurse.

The group is led by Chris Pounder, computer manager at the department of electrical engineering at University College, London.

Police Use of Computers is the group's first report, and is to be followed by another on defence.

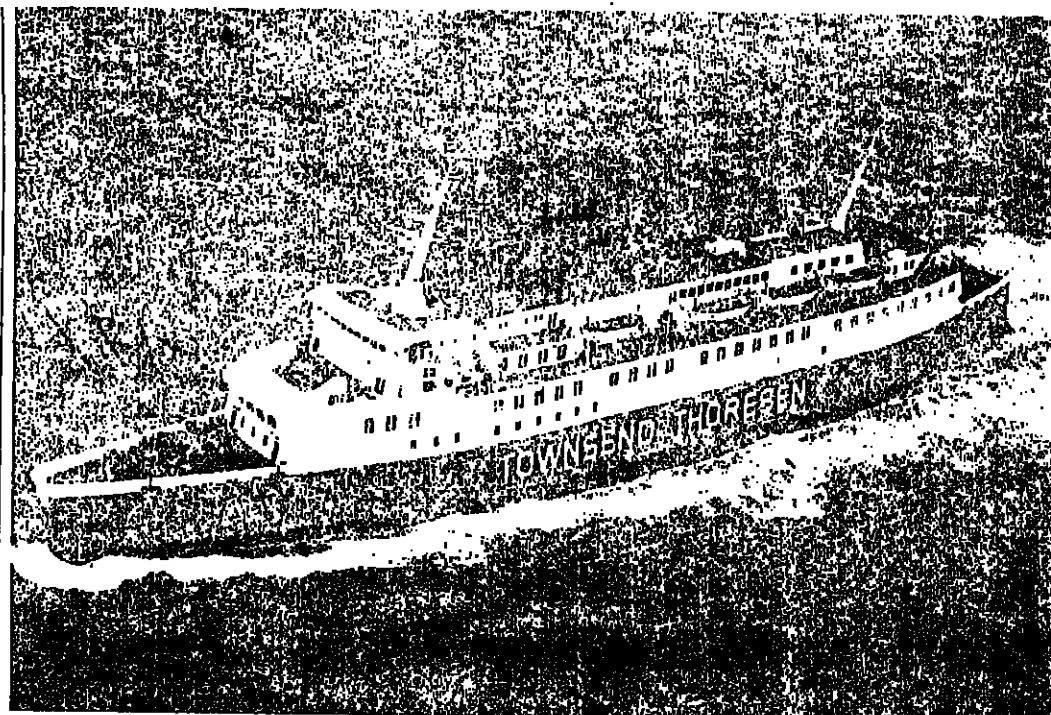
Meanwhile the government's secretive use of computers and the lack of legislation governing them is causing mounting concern.

The latest instance to come to light this week concerns the new EEC passport which, it emerges, will be machine-readable. The burgundy-coloured passport will eventually replace the familiar blue one.

Immigration staff at Heathrow airport, where computer links are being installed are concerned about the new passports.

They have written a report which has been circulated to concerned parties, including MPs, in the hope of bringing further pressure to bear on the government to introduce privacy legislation.

The Heathrow workers' fears are that there will be a link between Heathrow and an immigration computer run by the Home Office and the Metropolitan Police, in Putney, South London. The Metropolitan Police already has a computerised intelligence system called the C computer, which is kept under very tight wraps, but it is believed to contain information about drugs, immigration and fraud.



VIKING VOYAGER... showcase for an advanced marine communications project.

NEB to reduce Inmos holding to 'below 50%'

by Robert Parry

PLANS to cut the state holding in Inmos and bring in private capital are being drawn up by the National Enterprise Board. The NEB, now part of the British Technology Group, has a 75% interest in the semiconductor maker but hopes to attract investors to reduce this to less than 50% next year.

Preparations for privatisation are at exploratory stages and will be discussed this summer. A number of options are open, ranging from a gradual reduction in the NEB's holding to a complete take-out by private enterprise.

The reduction to a holding of less than 50% is seen as a likely first move. Foreign interests will not be ruled out. Inmos, established four years ago under a Labour government, is backed by £90 million of government money.

Coming from private sources this would satisfy both the government's present privatisation policy and Inmos' need to expand operations, in the UK or overseas. The money wanted is likely to be over £50 million.

The company is Britain's hope for competing in the mass production of semiconductors. Its US factory in Colorado Springs is currently turning out 16K static and 64K dynamic random access memories, and the UK plant at Newport in South Wales is scheduled to start full scale production in July.

Original plans were for four UK plants producing chips, but indications are that Inmos chairman Richard Peritz now favours expansion into Japan, where the fiercest competition for 64K dynamic RAMs comes from.

● Secretive sales. Leader comment page 13.

BT, Casu co-operate on micro

by Robert Parry

CO-OPERATION between a British microcomputer manufacturer and its biggest customer, British Telecom, has led to the development of a completely new system. Dubbed the Multi C, it is based on Casu's Super C machine with software already written by British Telecom, which will allow several users.

The Multi C gives each user - up to a maximum of six or seven - his own Z80 processor with 64K of RAM and a serial and parallel port. Printers, hard discs and floppy discs can be shared, the processor in the standard Super C, again a Z80, co-ordinating the multi-user system.

A four-user Multi C will cost about £12,000 including 20 Mbytes of hard disc storage.

Software to control the multiuser multi-processor system (Mumps) was developed by BT, which will be the first customer for the system. BT already has over 400 Casu machines in use, out of a total of about 1,000 microcomputers it has installed. Details of who supports the new system, how it is sold to other customers, and how royalties are paid, are still to be fixed.

As well as being a major supplier to BT, Casu is also on the Central Computer and Telecommunications Agency list of approved microcomputer suppliers to the government. Despite its name the company is not Japanese. It is named after managing director John Flood's daughters Catherine and Susan.

Floating comms

by Alan Simpson
DEPARTMENT of Industry funding has enabled the UK to establish a world lead in shipborne computer and communication systems. This was the claim made for a showcase "electronic office" Seaview '82 which was unveiled last week aboard a Townsend Channel Ferry.

The system, which was developed by UK systems house CAP in partnership with Siemens and with close support from British Telecom, Prestel and Townsend Ferries, is based on the Viking Voyager ferry which runs between Felixstowe and Zeebrugge.

Each workstation on the system provides voice telephony, Prestel, private viewdata, facsimile, telex, data and word processing and access to the digital PSS network.

Wilmot backs VME 2900

by Claire Gooding

ICL's transformation from hardware manufacturer to supplier of total systems was given more credibility last week in a key technical presentation by managing director Robb Wilmot.

Wilmot, who has already underlined software as the key to ICL's recovery, asserted that the VME operating system is far from the millstone many in the industry have judged it to be.

But he speculated that VME may be the last new development of an operating system for any mainframes in the industry, since the process is too long and expensive to be undertaken lightly.

VME's long period of teething troubles has brought it a bad reputation. Since Wilmot's rationalisation of development effort for the company's operating systems cutting out VME/K and the entry level VME/B-E, the system has emerged as the vehicle to take ICL forward to the era of networking and applications which are generated rather than built by hand.

Wilmot has had VME 2900, as it is now known, vetted by two teams of independent consultants, and says that their findings have not only given it a clean bill of health but generated some excitement about its potential. He is now determined to make the most of the operating system as an asset worth the money spent on it.

"£100 million later we have arrived - it nearly didn't arrive at all - but now we have a secure open-ended and flexible operating system which is also highly efficient."

Leading DEC supplier doubles sales force in shift to end user

by David Craver

THE leading independent supplier of disc and tape subsystems to the Digital Equipment market is shifting its emphasis in Europe from OEMs to end users.

The move will mirror a trend already established in the home US market of the company, System Industries, and will lead to a doubling of its UK and European sales force this year.

With the stated intention of selling the largest amount of disc storage possible for big PDP-11, particularly VAX, systems, Steve Hamerslag of System Industries says the company will have a one-gigabyte drive available by the end of this year, and two gigabytes will be the norm in two years.

Hamerslag, who has been sent from the US to direct the change to end user marketing, says the company is not interested in the mar-

ket for small Winchester disc drives.

System Industries' smallest drive is 67 Mbytes, and Hamerslag says "soon the mini version will be like disposable razors - cheap enough to throw away."

Plans to market a fail safe system, including central processor, for the DEC market are well advanced, and the first release will be made in July. Called Simon, System Industries Multiple Option Network, the system will be based on software developed for existing customers.

It builds on the company's dual data path systems. The "add-on non-stop reliability systems", which Hamerslag says will be the "Tandem computer of the DEC world", provide redundant data paths between each computer and each disc drive.

In the US, System Industries is already producing 70% of its revenues from end users and 30% from OEMs. The figures are reversed in Europe, but changes in the structure of the European company are already in place to shift the balance.

To promote the shift, David Scaman has been taken on from Systime as European sales manager.

Worldwide revenues for the year ended January 3 were up 66% to \$62,900,000, with after-tax income from continuing operations up 131% to \$4,523,000. About 30% of worldwide revenues come from Europe, and roughly half of those from the UK.

Forecasted revenues for 1982 are £100 million.

Looking to other future developments, Hamerslag sees no threat from bubble memories or charge coupled devices, except in specialist applications. He says the cost per byte is now about 5p compared with 1.6p for large hard disc drives.

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ICL cashes in on a Rair success with its entry to personal market

by Kevin Cahill

ICL's choice for its entry next week into the personal computer market is proving a very sound one on its current sales record.

The machine, brainchild of microcomputer maker Rair's founder Mark Potts, is rapidly becoming one of the most widely used machines in the systems business - not least because it comes with a 5¼-inch hard disc incorporated.

One user, software house Omicron, says that the incorporation of the disc removes one of the biggest constraints of all on small business systems. Without a hard disc, you wind up with a string of floppy discs, or even a program which has to be loaded in modules, according to Omicron director Vince Wells.

The Rair machine as sold by Rair is based on the Intel 8085A processor and runs CP/M and the full range of CP/M supported languages including Basic, Fortran, Cobol, Pascal and PL/I.

Mark Ridgeway, manager of ICL's Trader Point operation which will be responsible for marketing the Rair/ICL system, says that ICL went for Rair because of the evident foresight and speed with which Rair had adopted technology into its product.

He reckons that with so many other CP/M machines about, ICL needed one which was state of the art in terms of facilities for the user.

He recalls that Potts picked up the hard disc even before Seagate had produced a controller for it, and then got his product out faster than anyone else.

Ridgeway comments that six months is a lifetime in this business. Looking at ICL's own reasons for going in the direction of a personal micro, he says that it was to help increase the productivity of the direct sales force.

He reckons that there is a threshold value of about £20,000 to £30,000, at which direct sales are no longer profitable.

Trader Point is ICL's indirect sales force, according to Ridgeway, and will be concentrating on sales in the region of £4,000 to £8,000. He anticipates much higher volume sales from the operation. Systems houses are in the business of adding value and ICL aims to offer a product which will increase the opportunities for them to do this, according to Ridgeway.

The Rair agreement permits ICL to access future technology

which is expected to include a 16-bit machine to run MP/M. (MP/M is the upgraded CP/M operating system specifically intended for use with 16-bit and multi-terminal systems.)

For the time being, however, ICL, via Trader Point, is going after the two-screen market which is readily supported by the 64K configuration and existing Rair facilities.

The system ICL will be providing will serve a maximum of four screens, but without networking facilities. Ridgeway expects the system to retail for about £6,300 to include two screens, a 25 character per second printer and the MP/M2 operating system when that is available.

However, Ridgeway expects dealers to set the price working from a basic list price supplied by ICL.

He sees the main problem as getting the right kind of dealers for the company, selling the right kind of products - specifically ICL software packages.

Apart from that, ICL is interested in the operation to get peripherals moving - preferably ICL-built ones, according to Ridgeway.

SALES BRIEF

Spanish local govt buys System Tens

SPAIN has proved fertile soil for ICL, which has secured orders for nearly £250,000 for System Ten, System 25, and 9500 point of sale equipment. Two system Tens and a 25 will be installed in local government offices and town halls in Marchena, Olesa, and San Fernando, with total value over £100,000.

Ehner SA, an electric power supply company within a government owned group, is spending £75,000 for a System Ten and terminal, and a large supermarket chain in Cadiz is installing £60,000 of PoS equipment.

Min Ag upgrades

THE Ministry of Agriculture is upgrading its Computer Technology Ltd Modular One computer to a CTL 8066. It will be used at the Plant Variety Rights Office and Seeds Division at Cambridge.

£200,000 to start

GOVERNMENT backed Data Recording Equipment has won £200,000 of business from MCS Mini-Computer Systems, which has ordered 200 dot matrix printers for its Micos small business computers. Further orders are expected to follow. The product involved is the DRE 8000 family, which has speeds up to 240 characters per second, variable print densities and character sets, and a choice of paper handling mechanisms.

For Hong Kong

BANKING terminals to provide teller automation at Hong Kong and Shanghai Bank Group's UK branches have been ordered to the tune of £250,000 from Philips. Installation of PTS 6000 banking terminals will take place this year, and represents the second phase of the Group's UK automation programme. The first phase involved PTS 6000s for foreign exchange dealing.

Satellite signalling

ADVANCED digital signal processing equipment for British Telecom's satellite communication networks will be supplied by DCC of Dunstable. The £2.5 million contract is for the Madley earth station which serves Inland and Rutland. DCC will supply TD-MA/DSI terminals and related services. The Time Division Multiple Access terminals will allow the Madley earth station to access a satellite on a time sharing basis, while the Digital Speech Interpolation terminals transmit only "voice active" telephone conversation to the satellite.

Datapoint switch

ADMINISTRATIVE data processing at the University of Manchester will be run on Datapoint's Retriever source Management Systems, which will replace Burroughs' variable record computers, Data General minis, and an ICL Dataframe. Total investment in Datapoint systems during the three-point system will be some £400,000.

Liberals' Princes

DIGICO has sold two Prince microcomputers to the National Liberal Club for accounting, word processing, and mailing lists. Value of the order is some £10,000.

Telex contract

PORTABLE data entry terminals will be used to automate the order processing at 27 petrol stations and a hypermarket in the Warrington Co-operative Society. MSI Data will supply 30 terminals following a six-month trial in four of the co-operative's stores.

France asks US firms to finance £560 million components drive

by Jack Gee

LAST week's pledge of further government support for UK information technology, has been matched in France by plans to inject large sums of money to turn its computer components industry into a world competitor.

Paradoxically, the French are asking the Americans to help finance the £560 million five-year programme even though it is the US and Japan who currently dominate the market.

The French government wants National Semiconductor, Harris and Intel, which provide technology for components ventures with French firms, to supply money as well.

Industry Minister Dreyfus wants microprocessors to play a bigger role in the production of French cars, audio-visual equip-

ment and toys. He also aims to wipe out a current trading deficit of 600 million francs (£60 million) in microelectronics within four years.

The government wants to reduce the existing partnerships with American firms, which account for three of the five State-sponsored ventures in producing computer components.

Thomson-CSF, Saint Gobain-Pont-à-Mousson and Matra are the French firms involved with Harris, NatSemi and Intel. The French authorities do not wish to reduce American technical participation but to slim down the number of Franco-American groupings.

A key objective of this five-year plan, which will be formally launched in July, is to marshal the resources of computer makers

Thomson-CSF, CII-Honeywell Bull and Matra in a more coherent manner.

The government is disappointed with the performance of the computer components industry which last year produced a turnover of 11.3 billion francs (£1.1 billion) only 5% higher than in 1980.

There are 50,700 French workers involved in making electronic components, compared with 53,820 a year ago.

Under the first five-year computer components plan launched in 1976 by President Giscard d'Estaing the government made an investment of £750 million francs with the balance from the firms involved.

The new five-year plan requires the government to provide 480 million francs (£48 million) for 1982 alone.

The Next One is a Logical successor

by Maggie McLenigan

CASHING in on the publicity which brought The Last One to the public eye, Logical Computing of Southampton has called its own program generator The Next One. Advertisements for The Last One, an application program generator, appeared in the national Press in May and June last year, when the developers, DJ 'AI' Systems claimed it was the last program anyone would ever need to buy. A storm of controversy followed about whether The Last One actually exists, because no one in the UK was able to obtain a copy of the software.

Managing director of Logical Computing, Steve Walker, is not worried that his product will be associated with this problem.

"It's just a joke really. We're not claiming to make programmers redundant, just that The Next One will write all the boring bits, such as I/O commands," he explained.

The Next One is considerably cheaper than The Last One, costing only £50, and is aimed primarily at the scientific and engineering market. Walker says that for £50 the user will get both documentation and support.

"I'm also hoping to update it with feedback from the user," he added. "I ask people for any improvements and if they come up with one they get a free copy of the program."

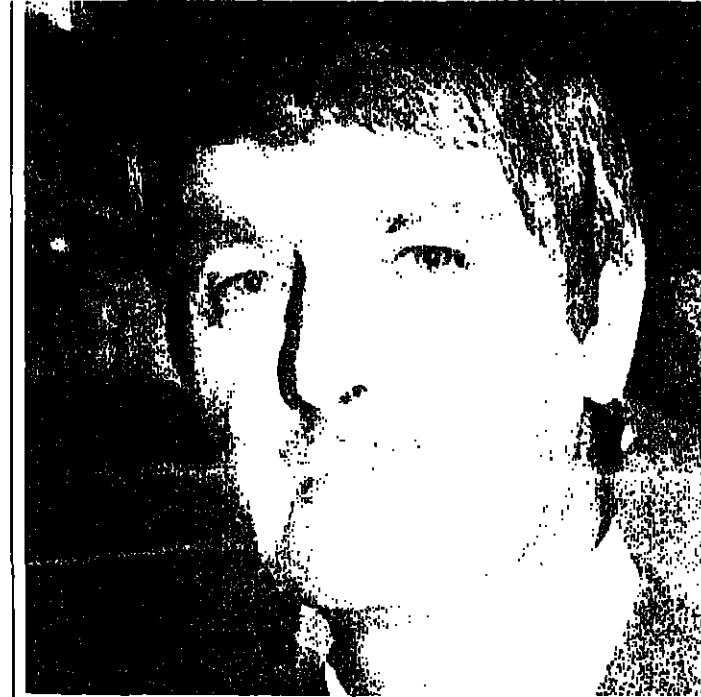
The Last One is now available from Tandy dealers and, according to DJ 'AI' Systems negotiations are currently in progress with Apple in the UK. Walker has approached his local Apple dealer but says that so far "they have only made noises", and no definite marketing arrangements have been made.

BTG £20m for assisted areas

by Kevin Cahill

THE British Technology Group is to spend an additional £20 million in the English assisted areas over the next two years, concentrating funding on new technology, particularly hardware and software.

The investment will be in collaboration with private bodies, two of which have already been announced - one in the West with Darling and Co to assist companies in Devon and Cornwall, and the second in collaboration with Sapping Enterprises in Liverpool.



COATES . . . "More people are ready to pay for quality."

First-time buyers are more discerning says DEC distributor

by David Craver

EVIDENCE that first-time computer buyers are accepting that the cheapest is not necessarily the best is being found by Alveronics, the Hull-based Digital Equipment OEM.

Alveronics is one of eight DEC authorised commercial OEM distributors in the UK, and the early dividends it is getting from the programme has encouraged ambitions to expand its sales efforts nationally.

Most of the new interest has been coming from consultants, rather than end users, who see sense in Alveronics' package solutions, which include everything from applications software to 12 months' maintenance, down to stationary and printer ribbons. As well as general commercial accounting systems, the company is branching into vertical markets such as hotel reservations, bakery control, high fashion retail trade and word processing systems.

Alar Coates, managing director of Alveronics, says, "We are getting over the hump of those looking only for the cheapest. More people are ready to pay for quality."

All Alveronics' application software is written in DIBOL, DEC's proprietary high-level Cobol-like language which has surpassed Fortran as the No 1 language shipped on DEC systems. Alveronics has been one of the few European test

sites for the 32-bit VAX DIBOL compiler, which will be released by DEC at the beginning of next month.

Being at a test site gives Alveronics a step on its competitors, Coates says, by "getting us into the front end in developing application products." It also allows Alveronics to make suggested changes to the latest release of compilers which can bring the most out of its own software products.

For the end user the VAX DIBOL release ensures a growth path through the range of DEC equipment, with a high degree of compatibility across the different operating systems, including CTS300, CTS500, and MVS. It also allows Alveronics to maintain a single source listing for software products that range from the 12-bit PDP-8 to the 32-bit VAX. That, says Coates, takes away the operational cost of moving from one system to another.

Alveronics, which began as a technical services company, has installed some 150 DEC systems, of which just over 90 are PDP-8s and the remainder PDP-11s. Its plans are to reach an installation level of 70 to 100 systems a year, of which 50 to 60 will be PDP-11s, in the next 18 months.

Growth, in both net profit and turnover, will be at a level of 40% per annum, Coates says, with earnings now running at 10.8% of sales. Turnover in the year ended September 1981 was £1.7 million.



LEDIN (right) . . . Need for wideband communications. On the left is Bjorn Olsson, managing director of EIS.

Swedish firm plans network at five times Ethernet speed

by Donald Kennett

A FIRST glimpse into the office automation strategy of Sweden's newly-formed Ericsson Information Systems has revealed plans for a local network which will run at 50 Mbits/sec, five times the speed of Xerox's Ethernet.

EIS was born in January following last year's takeover of the computer and terminal company Datasab by Sweden's LM Ericsson, the world's fourth largest manufacturer of telephone equipment. The aim is to establish itself among the leaders in the office automation market.

According to company president Hakan Ledin, Ethernet is at best an interim solution to office communications. Ericsson is supporting it because it could become a market standard. But user companies that worked out their

information strategies properly would need far greater capacities to provide all the information they had available by all the staff who could benefit from using it.

The resulting reorganisation of company structure will lead to much flatter hierarchies, according to Ledin. Staff will communicate autonomously with company databases and among themselves.

Wideband communications systems will enable front-line workers - those actually producing the goods and services and those meeting the customers - to draw on as much information as they need without having to refer to back-up supervisory and clerical organisations.

EIS aims to offer consultancy on information structures and to assist in planning strategies for reorganisation. It then aims to have

available the communications and information systems to suit.

At the heart of the company's product line will be an upgrade of Datasab's Alifaskop terminals and Ericsson's new digital private branch exchanges. But many other products are in the pipeline including a word processing system, incorporating high speed teletext.

Further into the future, EIS sees optical fibres as the appropriate medium to support the huge bandwidths it believes will be necessary.

To overcome the usual objection to optical fibres in local networks - that the medium must be broken at each node to get signals on and off through an electronic insert - Ericsson is developing an optical logic element to provide purely optical signal regeneration and therefore an unbroken path.

No doubt about it.

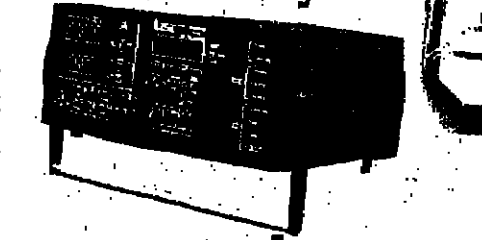
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Arch-rivals united in tribute to a booming industry at the annual ICP awards... Maggie McLening reports

'Million' honours for UK software houses

EVEN the critics of British software would have been impressed at the eleventh annual ICP Million Dollar Awards ceremony last week. Large numbers of UK companies carried off prizes marking solid cash achievements in sales of software products, many of them won through exports.

An unreal, slightly showbiz atmosphere prevailed at the Savoy Hotel, where the second ceremony to be held in London took place. Groups from arch-rival British software houses gathered to drink toasts to "the demise of American software companies", and the only competitive talk revolved around the number of awards won.

This year the list of winners had grown intimidatingly long, with a total of 808 products now surpassing the million-dollar level. Some companies whose products had won awards at this level in previous years, such as Micro Focus' CIS Cobol, had moved on to

THE prestigious annual ceremony run by US software publishing company International Computer Programs provides a useful guide to the leading companies in the industry.

Awards are presented for any software product which has reached aggregate sales of one million, five, 10, 25, 50, 100 and 250 million dollars since its introduction to the marketplace.

Further awards are made in the ICP Super Software Sellers category to any salesperson who has individually sold one million dollars' worth, or more, of software products for the current year.

This group also saw companies adding new products to their list of previous awards, such as Macro 4 with its System Accounting and System Manager IBM-compatible software.

Micro Focus increased its already creditable score with million-dollar awards for the CP/M version of CIS Cobol and Level II Cobol, while Northern Software Consultants added an award for its

eral manager Terry Booth.

The awards were presented by the Baroness Phillips JP, Lord Lieutenant of Greater London.

Among the British companies winning an award for the first time were Dataview for the popular Wordcraft word processing micro package, Logica for Rapport, the relational database management system, Quantime for the Quantum survey and data analysis package, and SIA for its Female finite element modelling package. These were all in the \$1 million category.

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BOOTH... Collecting a unique \$250 million award for Cincom's Total.

Nor-Purja mainframe purchase ledger package to last year's Nor-Sal sales ledger.

Also in the mainframe end of the \$1 million section, RTZ Computer Services won an award for its CIL Plus general ledger and financial management system implemented on ICL machines. At the micro end, VisiCorp scooped four for its VisiFile, VisiTrend/Plot, VisiDex and Desktop/Plan micro systems, plus a \$10 million award for VisiCalc.

Last year's British star Altergo was still in the limelight with awards in the \$5 million (for Guts), \$10 million (for CPG) and \$25 million (for Shadow II) sections. Managing director Dave Brownlee attributes his company's continuing success to "having been first in the market, then managing to hold on to and maintain the user base".

Other UK companies represented in the higher award categories included Pansophic Systems, winning a \$25 million place for its Panvalet system and a \$50 million for Easytrieve. Packaged Programs Limited (PPL) collected an award for the Cyborg Systems payroll and personnel system, which its subsidiary, PPL-Cyborg, has just sold to 20 companies including British Steel.

Big three in banking corner 10

BANKING software was, as always, heavily represented in the ICP Million Dollar Awards. The "big three", Arbat, BIS Software and the Hoskyns Group, cornered ten awards between them at varying levels.

Of the three, Arbat collected the greatest number: one for its Money Transfer System, and two for US and European versions of the ABS banking system. It also walked away with five of the Super Seller awards to individual salespeople: one each for Arbat Consultants' Michael Evans, Roger Felestad (for selling in the Middle East) and Malcolm Vickery, on top of those won by Mark Lobene and Tom Tomlins of Arbat Systems.

The highest award for a banking system, a \$25 million award, was won by BIS Software for its Midas international banking system. Stan Smith, BIS marketing manager, joked: "The dollar rate of exchange has changed for the worse since last year, but we still came in with some to spare." Hoskyns Group collected two \$1 million awards for banking products KIBS and MAS-M, and two of the Super Seller awards.

Geoff Griffiths, marketing manager for Arbat, attributes British success with banking software abroad to the high standards set by UK companies. "British software is the best in the world for banks because we put far more effort into understanding the peculiarities of individual banking systems, and providing long-term solutions. The UK has such a good reputation for this within the banking industry, it makes it much more difficult for other companies to make any inroads," he explained.



Jane Simmon with her award.

1st woman winner

FIRST British woman to win a Super Software Seller Award was Jane Simmon, of the Hoskyns Group. The accolade goes to an individual salesperson who makes \$1 million sales of one product.

Simmon won the award for sales of MASM, a modular applications turnkey system for microcomputers, which runs on DEC PDP-11 and VAX machines. Simmon joined the Hoskyns Group as a graduate programmer on leaving Essex University in 1977. She entered the development team of MASM, and worked her way up to the systems side of the project. "You might say I've grown up with the product," she commented.

In 1980 she started doing sales support work, which in turn led to a permanent post in marketing.

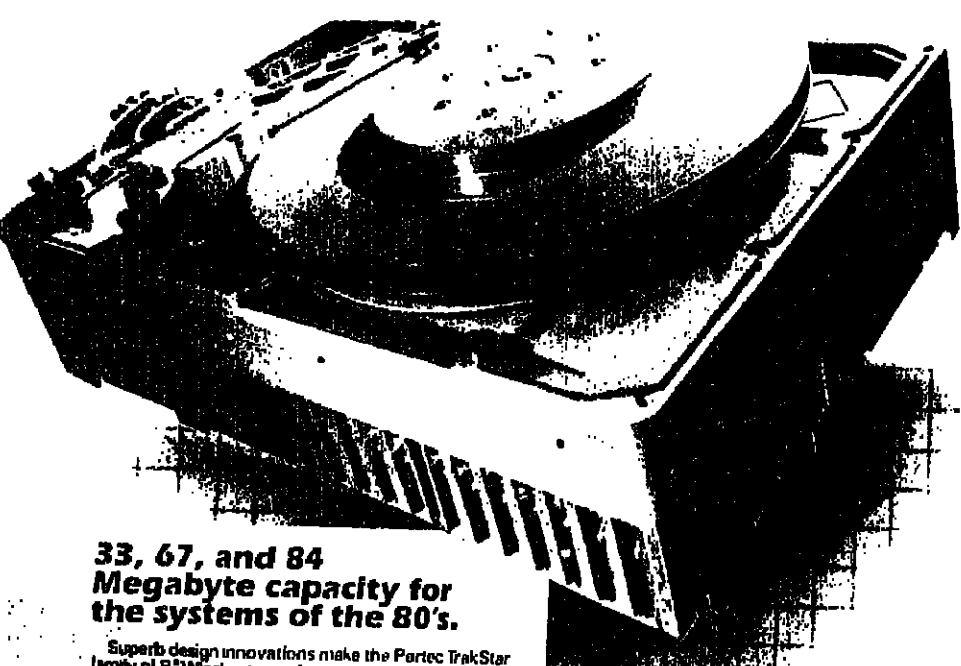
One of the few other women to take an award was Elizabeth Skerret-Smith, marketing manager for Altergo, who collected a \$5 million award for the Guts time sharing package.



Drinking to the downfall of US software (from left) John Priestley (Hoskyns), Geoff Griffiths (Arbat), Stan Smith and Keith Williams (BIS Software) and Richard Willott (Hoskyns).

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Rejoicing in Quantime's success (left to right): programming manager Ian Kelly, Ed Ross, UK sales director Richard Kottler, and Mark Katz.

Three-year-old firm exports 50%

ONE of the youngest software houses to win an ICP Million Dollar award was Quantime, set up only three years ago. It has achieved an impressive 50% of its £1 million turnover from exports.

Specialising in software for market research covering both agencies and government departments, Quantime exports to West Germany, Holland, Australia, New Zealand and the US. Sales of the Quantum survey and data analysis package, which brought the ICP award, were 75% overseas.

Marketing director Mark Katz commented: "This reflects the international nature of the ICP award."

Quantum currently runs on

Prime equipment which Quantime uses for timesharing services, but there is also a DEC/VAX version available.

According to managing director Ed Ross, there are plans to extend the system into the 16-bit microcomputer market, with a portable timesharing operating system, although the company has hitherto avoided micros.

"We think that it is with the new generation of 16-bit micros, running the Unix system or its derivatives, that the hardware and software will come of age, and begin to provide the reliability and facilities that makes widespread use worthwhile," he said.

Another winner with a high proportion of export sales was Davy Computing, which won a \$10 million award for its Control Of Material Planning and Isometric Drawing (COMPID) package, relating mainly to piping materials.

The majority of sales are to contractors like John Brown or Ralph M. Parsons which build oil refineries, or to refinery owners such as Monsanto and Robin & Haas.

According to project manager Fred Baines about 90% of licence sales are abroad. There is also a high percentage of bureau users of the system in the UK, US, Canada and France.

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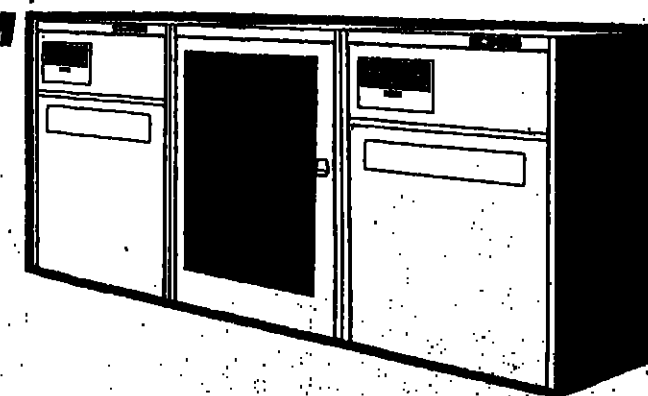
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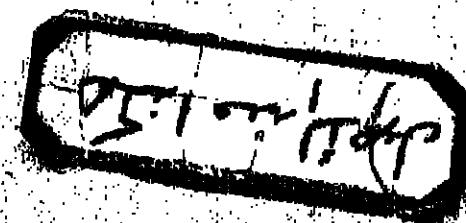
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Software houses in the dark about govt aid for exports

AN IT Year campaign to promote the export of UK technology is getting little response from British software houses because the majority are unaware that it exists. Set up for an experimental year, ExportIT has been promised £250,000 from Department of Industry funds to establish an international trade association, supplying information about overseas markets to British companies.

"We are attempting to act as a catalyst for exporters and overseas buyers by telling people about the opportunities available," explained Lionel Woodcock, a consultant working for ExportIT.

"Typically, software houses are fairly small and their attention is not drawn to exporting. We aim to smooth their path."

Director of ExportIT Bill Wells, an accountant by profession, hopes to attract all sizes of technology company into the scheme. A questionnaire was sent out to 450 potential participants, asking details of current exports and specialist areas, but only 100 replied.

Doug Eyeions, chairman of the Computing Services Association, does not consider this a poor result.

"I think it's a very good response, and I'm delighted with ExportIT's progress in the three months it's been going," he commented.

He dismissed suggestions made by the Economist that it may end up as "just another sleepy trade association", saying: "I certainly don't get much sleep - I'm too busy working on the scheme. We're 100% behind it, and I am helping to organise things. David Fairbairn of the National Computing Council and I are both on the council."

Despite enthusiasm by official bodies such as the CSA and NCC, details of the scheme do not appear to have been widely publicised.

Richard Smith, director of Micro Products Software Ltd (MPSL) said that he had never heard of ExportIT and expressed doubts that it would be of much help anyway.

"Whatever they do will only be effective for someone starting up from cold," he commented. "And I certainly think they should publicise it a bit more."

Software house Macro 4, suppliers of IBM compatible software, also had reservations.

"I have severe doubts about whether the government is in a position to supply this kind of information," said Jim Dowling of Macro 4. "We rely on word of mouth through the trade. The best people as contacts for exporting are small companies or individuals who are hungry for business, because they put more effort into it."

Keen Computers, which is now expanding rapidly in the US and Europe, said it might have been interested in the project had it known about it.

"We are quite involved in IT year, but I've not heard of ExportIT," said John Clarke, the company's sales manager.

Companies which have become involved in ExportIT are enthusiastic about the work in hand for covering Japan, the United Arab Emirates and Singapore in addition to the US and Europe.

"We are certainly interested in the Singapore and Malaysia aspect," commented Roy Taylor, chairman of Package Programs Limited (PPL), adding that he had only heard of the scheme "by chance".



EYEIONS... Busy working on ExportIT.



Specialised systems are helping newsgagents handle their accounts.

Paper round speeded

THERE should be no excuse for late newspaper deliveries from newsgagents buying the Newaround system from The Computer Room systems house in Tonbridge.

One of its main features is the compilation of lists of publications for customers which are given to newspaper boys for their rounds. This eliminates early morning marking up of papers, and speeds up re-organisation and accounting if a title is either not published or not delivered.

"We talked to many newsgagents when we were designing the system, and they all said that there were no systems which handled this area of business very well," commented Mike Shepherd, manager of The Computer Room.

To help solve the problem, TCR chose the high-speed Anadex DP-9500 dot matrix impact printer, producing up to 200 cps, for the system which runs on a Superbrain microcomputer.

Hardware costs are around £3,500 for the system and the current software is priced at £980.

Transputer CAD system scores

INMOS is still reticent about details of transputers, its long awaited complex microprocessor chips, but is more forthcoming about the design tools developed to bring them into being by 1984.

Built up over the past eight months, the CAD system is in advance of most things available, Inmos believes, and echoes the increasing complexity and interconnection of the components it will be used to design.

Expected benefits from using it are being able to get rid of repeated design iterations and having confidence that when a chip is designed it is right.

Transputers, a name coined by Inmos' Iann Barron, will be VLSI building blocks for applications like fifth generation computers. The key attribute will be simplicity of implementation, says Barron, achieved by rethinking processor, language and communication design and including reasonable amounts of memory on-chip with high performance processing elements.

According to Barron, the Inmos CAD system, running on three VAX mainframes at the Bristol design centre, scores over conventional systems like the Calma equipment also used by Inmos in the integration of the various tools and in its interactive chip simulation and design rule checking for chip layout.

Usually analogue simulation at circuit level is a long process. The Inmos system gets round this by only simulating part of the chip in full detail, while simulating the rest at the logic level. This allows the simulation to be performed interactively rather than as a batch process.

Design rule checking - making sure that features like transistors and areas of metal for interconnects are laid out with appropriate sizes, shapes and spacings for correct functioning - is also interactive.

On conventional systems such checking is normally done as a post process on symbolic layouts to give the actual device layout.

The system currently works on octagonal shapes, allowing 45° angled lines, and a grid resolution corresponding to 1/4 micron on the chips. The interactive checking means that changes made to mod-



BARRON... Simplicity the key.

New interest in film technology of the '20s

A COUPLE of years ago the term "Langmuir-Blodgett film" would not have raised a frisson of excitement outside the research community. Now, with promises of techniques producing faster, denser integrated circuits, even the new technology world of microelectronics is starting to pay attention to this 60-year-old technology for producing extremely thin solid layers.

International research efforts involve universities in the UK, US, Japan, France and Germany, as well as electronics companies like IBM, Xerox and General Electric in North America, GEC and Plessey in this country and France's EPCIS.

These research activities, covering a wide range of biological as well as electronic and optical application areas, are mostly still 10 to 20 years from any commercial possibilities.

But according to Gareth Roberts, who chairs a Science and Engineering Research Council (SERC) working party on the films, industrial applications in silicon IC fabrication could appear within a few years.

Langmuir-Blodgett (LB) films are layers of organic materials one molecule thick deposited on solid surfaces. Single molecule thickness is achieved by floating the material on water, as in the simple school physics experiment to calculate the size of a molecule. The film is transferred to the solid by dipping the solid in the water and withdrawing it through the film.

By compressing the surface, a perfect layer with no holes can be formed and deposited on a solid substrate. These layers can be built up successively, allowing films of precisely defined depth to be built up. It is this "molecular Lego" idea that makes the films of such interest.

For microelectronics, the first likely successful applications are as resists for electron beam lithography and in sealing off leaky layers of material deposited by conventional means.

André Barraud of the Centre d'Etudes Nucléaires de Saclay, near Paris, claims practical gains in resolution of at least ten times. He has already obtained resolutions of 60 nanometres.

Other possibilities are depositing insulating layers on semiconductor materials, which, unlike silicon, do not have a good insulating oxide. Semiconductors such as gallium arsenide and indium phosphide come into this category. The promise with LB films is, says Roberts, new ways to capitalise on these materials, not to compete with silicon.

Layered films with particular optical or magnetic properties offer the possibility of high density memory devices. "You can put assembled monolayers one on top of another for as long as your patience lasts," says Roberts.

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Pet package protection

IT had to happen - a microcomputer software package to protect microcomputer software packages.

Manchester-based Mektronik Consultants has released a software protection package for the Commodore Pet to stop unauthorised access and copying of programs.

Called Safeware, it consists of a small hardware unit that plugs into the Pet user port and a software interrogation routine that checks for the presence of the hardware device.

The software, routine, which is written in Basic, can be placed anywhere within the user's program, and inhibits use of the program if the hardware unit is missing.

"It's rather like the dongle for the Wordcraft package," explained David Walker, projects co-ordinator for Mektronik Consultants.

Safeware costs £19.95, and users are allocated a unique code for each application or commercial software package. Additional hardware units for customers can then be supplied separately for £15.00 each.

And to protect the Safeware package itself from piracy?

"We are supplying people with a means of blanking out the interrogation routine for the Pet," said Walker. "The Aurorun facility also helps because it starts the program running immediately it is loaded, making it difficult to break in and list the code."

SOFTWARE BRIEF

BBC spin-off a 'best seller'

OVER 60,000 copies have now been sold of 30 Hour Basic, the follow-up book to the BBC's Computer Programme. The National Extension College in Cambridge which published the book also reports an "overwhelming response" to a special group training scheme it has set up.

Business system £5m market

RECENTLY introduced into the education sector, the Position 9000 microcomputer is about to be launched as a business system. This will happen as soon as Position has found some business application software to run on the OS-9 operating system, which has many Unix-like features.

DP seminars

A SERIES of software education seminars are being held by consultant Frost & Sullivan. Aimed both at DP staff and users, topics covered include teleprocessing software, packages, information systems and security.

Seminars last for three days and will be held from the end of April until mid-May.

Payroll on CP/M

A COMPETITIVELY priced payroll package for CP/M users has been released by Open Computer Services, the Brighton-based software house. Costing £750, inclusive of a year's maintenance, the Open Payroll also offers an integrated database for personnel and payroll interrogation by users.

Rental aid

A PACKAGE aimed at improving profitability for TV and video rental companies has been developed by microcomputer software specialist DRG Business Machines. Designed for use on DRG's Cado equipment, the system includes the ability to pinpoint loss-making agreements, produce reminders for late payments and give instant stock analysis.

The review cites United Technologies Microelectronics as having one of the most ambitiously financed programmes in the gate array business. It will invest around \$30 million over the next few years to gear up its Colorado Springs design centre.

The numbers of gates on devices is rising along with the money spent. LSI Logic is reported to offer the highest density array, with 6,000 gates, and International

CMOS booms, dRAM prices drop - report

TWO areas of rapid change have been highlighted in the US semiconductor markets - CMOS gate arrays and 64K dynamic RAMs.

According to the latest quarterly statistical review from the US Semiconductor Industry Association, US sales of CMOS arrays doubled to \$50 million in 1981 and are expected to climb to \$450 million by 1985.

In 64K dynamic RAMs the Japanese domination continues, while drastic price attrition keeps potential market entrants hovering on the sidelines.

In the CMOS array market, numbers of suppliers have blossomed, increasing from eight in 1978 to 29 at the end of last year as new companies joined the fray. Established suppliers are allocating large sums to product development, CAD automation and extending plant capacity.

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Honeywell Information Systems Italia is a reality in the world of printers and is out to prove it. Today marks the birth of a second generation of matrix printers created, designed and produced in Europe to meet European demands. Printers characterised by intelligent engineering, total reliability, safety and completeness.

NON-STOP INNOVATION

To supplement those small printers already operational, such as the L11 and S11 80-column series and the larger L31 and S31 132-column series capable of linking with all parallel or serial interface systems, which have been recently updated, Honeywell Information Systems Italia proudly announces the birth of the L32, R32 and L38. These new printers go to enrich an already glittering range of products. They are designed for a professional public, those very people who demand always higher standards of product quality, work continuity, operational simplicity and enhanced speed.

NON-STOP PERFORMANCE

The new L32 and R32 printers provided with a 9 needle matrix head, operate at 150 characters per second on 132 columns. The L32 parallel inter-

face printer furnishes such an outstanding print quality that is characteristic of the whole range of Honeywell products. The serial interface R32, is equipped with special software to automatically interpret programmer's commands to realize even the most complicated graphics. The L38, on the other hand, employs the latest 14 needle matrix head technology and is capable of printing 400 characters per second. Such performance does not imply that the equipment is functioning at its operational limits: in fact, its ability to print over a billion characters without adjustments proves the level of technological advance reached. Honeywell printers: a complete range of customer designed printers, capable of silent, safe and reliable performance. Day after day.

O.E.M. Products

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Robotron's 5 1/4 in Winchester-based micro, on show at the Leipzig Fair, is on its wayDonald Kennett reports

East Germans set to invade UK market

EAST Germany's monopoly computer manufacturer Robotron is preparing to launch a 5 1/4-inch Winchester disc based microcomputer in the UK. Called Micro Mind, it will be based on the A-5120 64-Kbyte eight-bit, office computer which had its East European launch at Leipzig Fair last week.

The machine will run Cobol and Pascal and will have Basic available in July. But unlike the German version which runs under Robotron's own operating system Sios, the UK version will run under CP/M.

Leipzig Fair, held twice a year in East Germany, is the major showcase for East European manufacturing industry from heavy agricultural machinery and railway rolling stock to microcircuits. It is also the main entrance to the East German market for Western goods — possibly the only one.

Claiming to be the oldest trade fair in the world, with a history that goes back 800 years, it occupies a permanent site with several dozen halls of various sizes, and during its run it turns the normal life of the town upside down, with everyone becoming temporary taxi drivers or interpreters or administrators.

This year it gathered 9,000 exhibitors from 60 countries. The Winchester disc, which will be bought in, will also be available only on the UK version. The East European version has three 128-Kbyte 5 1/4-inch floppy discs, made by Robotron, built in beside the distinctive leaf-green screen.

It will have a library of utilities including a program generator, a list generator, an input generator and disc initialisation and sort routines.

Application software will include order handling and invoicing, and users will be offered adaptations of various East German

systems, for example for banks, travel agents and conference organisers.

Another new system from Robotron was the latest version of its EC-1055 mainframe, the largest computer built in Eastern Europe. The main enhancement to the new version, the EC-1055M, is a channel-to-channel adapter which enables it to be used in a dual-processor configuration for reliability and speed. The channel transfer data at up to 3 Mbytes-per-second via a 16-bit parallel bus.

One of the first orders for the system has come from the Soviet Atomic Energy Institute.

The Robotron range uses three basic processors. The one in the 1055 family uses a TTL processor board, the middle range machines use a 16-bit processor based on the U830 bit-slice chip from the East German semiconductor manufacturer Mikroelektronik, and the eight-bit machines use Mikroelektronik's equivalent to the Zilog Z80.

To prove that it watches what goes on in other parts of the world, Robotron demonstrated voice recognition and speech synthesis systems in prototype form. The intention is to go into production if there is a response from the demonstrations.

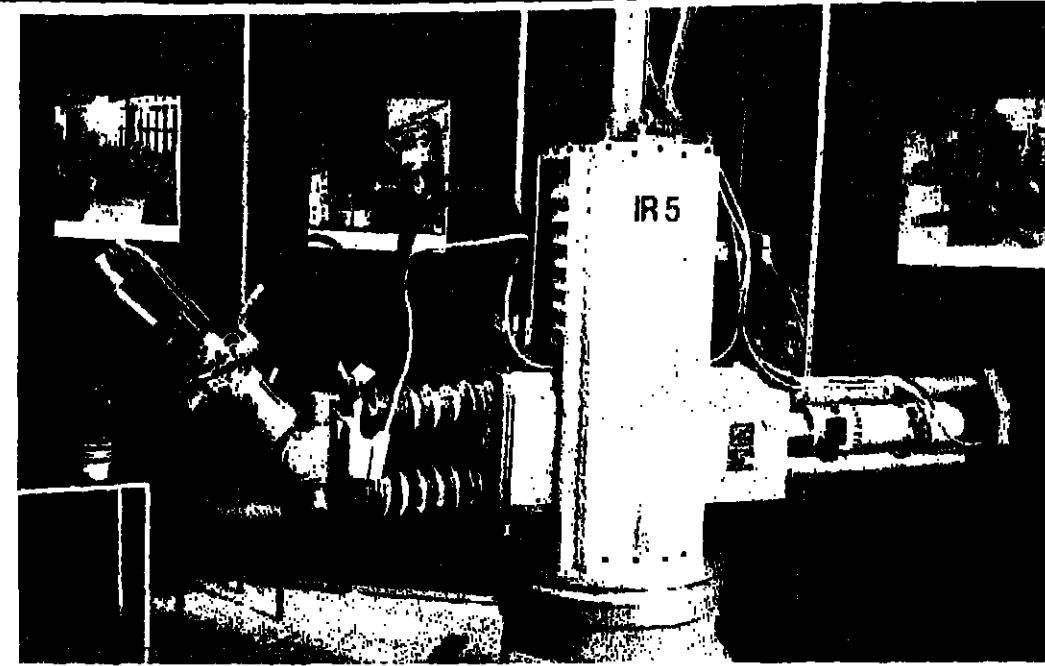
Robotron exports over 70% of its production, 90% of it to other Socialist countries — predominantly to Russia. It participates in the Socialist bloc Eser 2 unified range scheme.

During the last two years, however, public opinion has come

PROBABLY the most famous East German company, the optical manufacturer Carl Zeiss Jena, claims to have a chip production system to beat the best in the world.

Development chief Dr Kaut Kaschlik says that the ZBA-20 electron beam lithograph launched at Leipzig Fair, can print integrated circuit designs with track widths of 0.1 µm at the rate of eight to ten wafers an hour.

The Japanese and Americans could match that speed, he said, but not with track widths below 1 µm. The machine's predecessor,



The East German Household Equipment Industry Combine produces this robot in small quantities for its own use.

'4,000 robots this year' target

THIS year sees the start of a major campaign in East Germany to raise productivity through the introduction of industrial robots.

The target is to install 4,000 robots in various manufacturing industries by the end of this year, with the number reaching 45,000 by 1985. There is also talk of revising this to about 200,000 during the evolution of the Five-Year Plan.

The country claims to be facing a chronic shortage of workers in all sectors of industry and, as well as importing workers from as far afield as the Middle East and North Africa, its traditional solution has been to encourage a high birth rate.

During the last two years, however, public opinion has come

to regard this as inadequate and to feel that developments in robotics elsewhere in the world should no longer be ignored.

There was not much evidence of a major promotion of robots at Leipzig Fair, but the handful that were on show all attracted good crowds.

The computer company Robotron has made about 1,000 robots for its own use, but will not sell them and so did not show them.

Another organisation which makes robots for its own use is the engineering department of the Household Equipment Industry Combine. It exhibited a medium-sized general purpose robot for which it has production capacity for about 30 units a year. But it did not show it doing anything.

A spokesman said he could have sold several hundred of them in the first three days of the Fair, but his company would confine itself to selling consultancy.

The bulk of the national production is to come from machine tool plants in Plauen, Berlin, and nearby Wittstock. They will be installed with controllers from the 20-year-old industrial controller manufacturer Numerik Karl Marx of Berlin.

The Berlin machine tool company, the Seventh of October combine, demonstrated a robot application developed for a customer which used a robot from Asea in Sweden, so there is obviously scope for outside suppliers, at least until domestic production takes off.

domestic suppliers, was usually overcome by offering something different, whether it was performance or specialised applications.

Eastern counterparts, like their Western counterparts, are finding that the market is too complex to be able to make everything themselves. Robotron's sales director, Dr Frank Seiffert, put it in perspective by saying that the whole of East Germany's population was only the same number as are in Japan's electronics industry.

The US had a whole block of companies marshalled behind a large photograph of Ronald Reagan, but there wasn't a computer to be seen. Elsewhere in the fair Honeywell Italia was trying to follow up last year's sale of 12 Level 6 minis with 162 terminals.

very high speed integrated circuits on wafers up to six inches in diameter. Usually with photographic systems problems arise with complex circuits on large wafers because of the difficulty of aligning successive masks accurately and keeping the mask a constant distance from the wafer over the whole design area at once.

In Zeiss' latest device, a block of 24 chips on a mask is exposed 12 times to cover the surface of the wafer. The time spent exposing the same wafer 12 times is more than made up by the savings in the later stages of chip manufacture.

The ZBA-20 is controlled by a Russian microcomputer, the Elektronika 100/25, which is similar to Digital Equipment Corp's FDP-11/34.

It was also the first showing of Zeiss' photolithographic processor developed for very large scale and

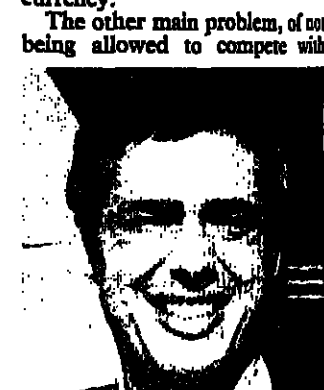
Five years to make an impression

WESTERN companies which made the trip to Leipzig agree that it takes two to five years to make any kind of impression in Eastern Europe. A successful year, or even a run of them, is not necessarily followed by another one.

The only major UK company represented was Rank Xerox, which concentrated on copiers made in the US. The company wants to take in the three-year-old Xerox 860 word processor, also US-made, if a test marketing scheme in Romania works out well this year.

Area manager Geoff Lincoln said that even some of the copiers were subject to the Cuban embargo on computer equipment agreed by Nato if they had advanced chips in them. But the worst problem from the Eastern side was their shortage of foreign currency.

The other main problem, of not being allowed to compete with



SBEIFFERT... "East German population same as in Japan's electronics industry."

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COMPANY NEWS

Amdahl outlook 'super' say brokers — in spite of drop in earnings

THE first three quarters of 1982 will show reported earnings for Amdahl below those in the comparable quarters of last year, according to industry analyst Peter Labbe, who works for New York brokers Smith Barney Harris Upham and Co.

But this is not unexpected, according to Labbe and, brimful of confidence, he says he "does not foresee any disasters".

His views will be welcome news to users of Amdahl kit in the UK, and investors in the company, which is fully quoted on the London Stock Exchange.

With a degree of hindsight — claimed as remembered foresight — which perhaps many wish Labbe had shared more widely, he says it has been apparent for quite a long time that the older 470 series would have to carry the company for the first nine months of 1982, despite reduced price levels and a probable increased customer propensity to lease at the high end of the line.

Initially the company scheduled deliveries of its next big machine the 580, for spring 1982, which still left it more than six months behind the first IBM 3081 delivery.

The 580 is intended as a plug-compatible rival to the IBM machine, and was formally announced within days of IBM's unveiling of the 3081.

With the 580 now scheduled for the back end of this year, IBM has a clear one-year delivery window left open for it by Amdahl.

Labbe reckons that IBM is no longer its greatest competitor against the 470, which will have to sustain Amdahl for longer than anticipated. He says that secondhand

sales of IBM's 3033 kits will provide Amdahl with its strongest opposition.

"Based on the amount of used equipment on the market, new production (of the 3033) will force IBM to move into the limited new build category soon". Available evidence, he says, suggests that Amdahl is competing very well, relative both to new and used equipment.

Production of the 3081 is itself on a slow ramp, he observes. "Currently", Labbe continues, "IBM has a considerable delivery advantage over Amdahl in the new generation, a position we believe Amdahl conceded in the interest of having a superior machine".

Like most observers he considers the 580/60, which is the direct competitor to the 3081K, to have twice the performance of the IBM machine, which he also thinks has only 1.5 to 1.7 times the performance of the 3033, and not twice the performance claimed by IBM.

He attributes this to the fact that the IBM machine is diadic — ie, has a twin processor — and suffers from loss of performance because of the "overhead" involved in coupling the two processors.

Nor does he rate the 3081's IMS and CICS software too high when it comes to efficiency. He criticises the frequency with which the software employs routines which effectively reduce the dual processor to single operations.

Amdahl's 580/60, conceived as a uniprocessor and architected to run without coupling overheads — from which Labbe admits the Amdahl 580 dual processor may suffer in terms of performance — is unaffected by "single processor limitations" in the operating soft-

ware routines.

Labbe does not think the degrading in the Amdahl 580/80 will matter, "because it has twice the power of the 3081 anyhow". But IBM will announce smaller 3081 systems during the year, probably uniprocessor machines, according to Labbe.

Labbe forecasts that "not even Amdahl can mess up 1983". The order backlog is relatively firm for 1980s and growing. Customer decisions to go with an independent tend to be more of a commitment than IBM orders.

"A healthy portion of new orders are from Amdahl's existing customer base. While we would not like to bet large sums on anybody's order book for the second half of 1983, we believe the outlook is super."

"Therefore we see (1) a high box count and (2) a high purchase ratio. We see cash building up, tax rates declining, profits in communications (Amdahl lost \$4 million on comms in 1981), and some revenues from new activities rather than just costs as in 1982."

Labbe's estimate of gross profits for 1982 is about \$32 million. His estimate for 1983 works out at \$112 million.

Kevin Cahill comments: Labbe's enthusiasm for Amdahl, whose performance he has mostly got right in the past, overlooks a number of salient points, some in Amdahl's favour, some not.

For a start, Amdahl is winning new business outside its existing user base, an operation IBM no longer seems able to pull off at the top end.

IBM is faced with a user base of large corporations and companies suffering trench warfare type attrition in the current recession.

Amdahl is a counter cyclical supplier, benefiting most when corporate financial axes come out, demanding lower overheads and higher productivity.

But there is only so much defection available from the IBM user base, and only so much new business available to the plug-compatibles. Both are now being offered very attractive machines, sold by big US and UK marketing operations like ICL and NAS. These are the IBM-compatible machines from Hitachi and Fujitsu.

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KELSON... "Each company will continue to trade under its own name."

Midlands acquisition puts Duport on road to £3 million turnover

by Andrew Thomas

A MAJOR contract and a successful takeover have led West Midlands bureau Duport Computer Services, DCSL, to predict rapid expansion in its business this year.

The company has won a three-year, £900,000 contract to supply all the computing requirements of Serck Heat Transfer of Birmingham, and has also moved into microcomputer sales, training and recruitment services by the acquisition of the Worcester-based MKA group.

DCSL's parent, the Duport Group, has acquired the whole of the issued capital of McDowell, Knaggs and Associates, and MKA

Personnel, which together form the MKA Companies, with assets of £30,000, and a turnover last year of over £400,000.

David Kelson, managing director of DCSL and chairman of the ICL Computer Users' Association, is confident that the acquisition will ensure that the £3 million turnover forecast for this year will be achieved, and that by the end of 1984, it will rise to £5 million.

"MKA will not be absorbed into DCSL," said Kelson. "Each company will continue to trade under its own name. It must be stressed in the short term that it is not the intention to interfere with the current success of the companies by the transfer of personnel and/or

responsibility."

The deal with Serck involves the transfer of its ICL 2950 mainframe to DCSL's data centre at Tipton, near Birmingham, where it will join the existing ICL 1904S and 2960 machines. According to Kelson, only one working day will be lost during the transfer, and seven of Serck's DP staff will move to Tipton with the hardware.

George Cochrane, financial director of Serck, with several years' responsibility for its in-house computing, said: "The contract negotiated with DCSL has immediately reduced our computer department expenditure by 30% while maintaining the service levels demanded."

that has inevitably developed with others causes them to go with him. When you are expanding at the rate of 50% a year you get staff administration problems as well."

Anderson also explained that much of CACI's business consisted of a number of projects for which consultants were specifically employed, forming teams which were eventually disbanded.

CACI has fired more than 20 people and seen more than 20 others resign at its UK-based European operations over the last 12 months.

CACI 'fell foul of growth rate'

by Boris Sedacca

CONSULTANCY CACI has blamed rapid growth for its high staff turnover, after turning in doubled profits and turnover up 68% for the year to date.

The company claims that despite the wholesale departure of senior management, it has increased its staff in Europe from 117 to 163 over the last year, and opened new offices in Brussels, Munich and Fleet in Hampshire.

The company's turnover has averaged 50% annual compound growth in the 19 years of its exist-

ence. Revenues for the first half of fiscal 1982 increased 68% from \$14.4 million to \$24 million over the last year and profits increased by 96% from \$850,000 to \$1.67 million.

"We fell foul of our own expansion rate," said Colin Anderson, divisional manager of CACI's Birmingham office. "Finding 50 quality people is difficult, especially 50 who will fit in with the consulting way of life."

"A company like this can only be run on loyalty and when one person goes, the bond of loyalty

that has inevitably developed with others causes them to go with him. When you are expanding at the rate of 50% a year you get staff administration problems as well."

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BTG sets up enterprise fund in West...

IN the first of a planned series of initiatives the British Technology Group has set up an enterprise fund of £2 million in Devon.

The move, accompanied by a similar experiment in Merseyside, is in partnership with the merchant bank subsidiary of Dartington Hall, a long established financing house for local enterprise in the West country.

The ultimate objective is to channel this money into new enterprises, particularly electronic and computer based, via organisations with a track record of business creation.

In Devon, which is on a par with Liverpool as an employment black spot, the BTG has chosen one of the most prestigious local organisations as a partner, but one which has no experience of high tech-

nology start-ups.

The new organisation in Devon will be called the Western Enterprise Fund and will operate from Dartington Hall, near Totnes.

The board of the new organisation, comprising BTG directors, Dartington directors and local directors, has no representatives from either computer hardware or software, or from the electronics industry on the board. In fact the board appears heavily weighted with bankers and the initial funding, £450,000 from the NEB and £50,000 from Dartington, is just enough to create 20 jobs.

The fund plans to make average investments of about £100,000, in return for which it will seek between 20% and 40% of a small company's equity. The money for companies will be provided in the

form of loans and equity.

The banking bias here is clear, and the fund appears unworldly of the message, as distinctly spelt out by some of the speakers at the Computer Weekly financing conferences last year.

Small companies need equity, not loans, primarily because the burden of interest and capital repayments often stops dead in their tracks even promising small companies.

While acknowledging that the fund is small, a spokesman at Dartington said that it was an important step.

"If early ventures by the fund were successful, the initial share capital of £2 million would be increased and more direct local sourcing for the fund would be considered," he said.

...and signals its faith in a new product in North-east

IN a further example of the BTG's new approach, it has allied itself with the Midland Bank and Tyne and Wear County Council to invest in a small company.

The company, to be called Mikro Industrial Instruments, will build and sell microprocessor signal conditioning equipment for the process control industrial instru-

mentation market.

The primary aim of the financiers is to create the marketing organisation for a product which is still about a year away from completion.

The final details of how much money will go into the project have not been worked out, but half of the BTG's stake will be guaranteed

by Tyne and Wear County Council and 80% of the Midland Bank subscription will be guaranteed by the taxpayer via the government loan guarantee scheme. The product is still in development at the Microelectronics Applications Research Institute (MARI) in Newcastle-upon-Tyne.

Despite this, the various parties

involved have sufficient faith in the work to invest in the creation of a sales organisation which will pre-sell the product as it nears completion.

In this respect at least they are following a respectable computer industry tradition of announcing and selling products, such as 3081s, well in advance.

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GILB'S MYTHODOLOGY

You need time — so let users learn the hard way

The Zero'th Law of Reliability: "If a system doesn't have to be reliable, it can meet any other objective."

IN the previous columns I have commented on my nine laws of reliability. Perhaps you thought that I was finished? Not so. Co-author Gerald M. Weinberg, in our book *Humanized Input* (Studenttiteratur, Lund, Sweden) felt challenged to state an even more fundamental law of systems. Consequently, he called it the Zero'th Law of Unreliability.

He re-stated the Law twice: "The less reliable a system has to be, the more easily it can meet any other objective" and, in its most general form: "If you don't have to meet the specifications, you can build a masterpiece."

This law could be the salvation of all hard-pressed programmers and system developers. Your user is screaming for the system "yesterday", or perhaps equally unreasonably "on schedule". Don't stand there muttering excuses like "95% completed". Give the user the system. Anything will do. Some old program from your student days, for example.

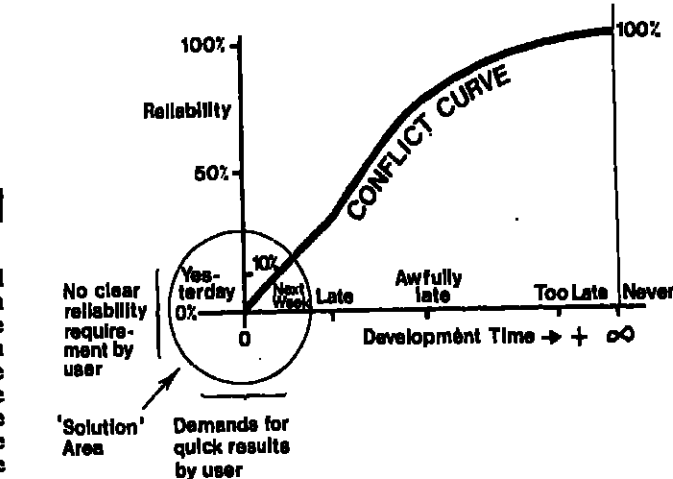
Naturally, as in all new systems, there will be some "teething troubles". The user can't expect perfect reliability ever, much less on the first day. So the very first transaction which hits the logicware results in a wrong output. No problem, that's normal in the running-in phase. Patch the logic to handle that transaction, and if you are lucky then that same logic will handle all similar transactions which follow.

10 YEARS AGO

From Computer Weekly of March 23, 1972 . . .

THE Civil Service Department has initiated studies of network problems with CAP, Logica and Selcon . . . The NCR Century 300 is launched in the UK, 18 months after the US launch . . . Data prep equipment manufacturer Kode is test marketing minicomputers . . . Gemini of Montreal is offering a package which understands simple English and French sentences . . . IBM is developing software for

the 370 which will allow virtual memory by controlling paging on time sharing machines . . . The OCR-B font, preferred in Europe, has been accepted by the American Standards Institute . . . Two Honeywell 6030s have been ordered for Yugoslavia, one for a chemical company and the other for an insurance organisation . . . RCA's withdrawal from general-purpose computers last year cost it \$250 million.



The Zero'th Law: "The less reliable a system has to be, the more easily it can meet any other objective."

DOWNTIME
Polar predictions from the back garden

EXPERT systems, which consist of a knowledge base and an inference program to draw conclusions from it, have been spreading their wings lately.

The first were an expertise to shoulder some of the arduous tasks of doctors and geologists as a guide to diagnosis and prediction. More recently I heard of a system for homeopaths based on the Sinclair ZX81. Generalised systems are also available.

But now, I learn of one for weathermen. It was designed by an enthusiastic, obviously gifted amateur, and the so-called knowledge database is constantly updated from readings taken in his garden. The expertise is, of course, his own.

Who needs such friends?

PERMIT me a moment to grovel at your feet, oh vertiginous reader. A few weeks ago I reported on a buzz word generator reputed to have been published by the Canadian Defence Department. Perhaps it was.

But if so an almost identical one was published by Honeywell eleven years ago and later also de-

veloped into a buzz phrase generator.

The buzz word generator I referred to was sent in by a so-called friend, whose integrity I had never had cause to question. He assured me that this was something new and exciting — which to me it was.

I now know otherwise. So far, well, former friend.



"There's better ways of getting in the Sunday papers than having a record on the police computer, son."

No respecter of titles

"We apologise but we are unable to amend your name to read Dr. Statements are computerised and can only be addressed as Mr, Mrs or Miss."

Such is the message for a man outraged at the irreverence in which his mail from a credit card company was addressed. Such is the state of a disrespectful society whose soul is under siege not from information technology, but from an incandescent torch of homogeneity that threatens to incinerate the spirit of freedom and variety.

We must keep titles. Or do away with the whole lot.

When four nouns equal one adjective

THIS seems to be a week for postscripts. Here's another following the recent piece I wrote on a buzz word generator, in which I criticised the use of nouns as adjectives.

Charles Wagstaff, writing from Poole, Dorset, disagrees with me. In fact he quotes an example from an outboard motor manual in which a string of four nouns forms one glorious adjective.

Automating the driver

LIMITED are the number of times we will have to brake sharply for a red traffic light if a scheme in pilot at several major car manufacturers gets on the road.

Cars would have a little computer under the bonnet which would receive infra-red signals from an emitter seated close to the traffic light. The driver would then be instructed by the computer whether to slow down or speed up in order to hit the traffic light at green.

But why stop there? If the car could talk back to the traffic lights, obliterated for ever would be those irritating waits to cross empty

FOCUS
Don't be committed to voice too soon

COMMITMENT, it seems, has suddenly become the latest theme in the data processing world.

For the supplier, only aggressive commitment will move the company a notch or so up in the sales league, while the user is expected to be determinedly committed to absorbing ever-increasing levels of technology and innovation, with only the company accountant having reservations about the commitment of further corporate funds.

Commitment was the name of the technology game at the recent industry conference on teletext. The 500 or so invited delegates present readily committed themselves and, let us hope, the user, to a teletext awareness campaign of substantial proportions.

For the public, avoiding this particular branch of commitment is going to be difficult. Promotion of videotex, Prestel, Ceefax and Oracle will be covered by the Press, trade and broadcasting media, with the local high street TV rental centres and stores adding their collective marketing weight.

Commitment was similarly evident in a recent interview with Robb Wilmont in the Sunday Times. The ICL leader admitted to being committed — and turned on — by the micro chip. In particular, he seemed fascinated by the advent of voice technology, the micro in this case presumably being a microphone.

Wilmont appeared hopeful that before long, doors would open at the sound of his voice or that his computer terminal screen would draw a transistor chip on his verbal instruction.

That ICL is keen to open new technology doors is understandable, if rather belated. Voice recognition systems have been around the industry for some time, especially in such areas as warehouse dispatch control.

However, developments are already being initiated in Japan by Toshiba, which is incorporating voice pattern commands into domestic TV equipment. Sets apparently will accept up to 30 commands, a number which would seem to be more than adequate to cover basic home operating routines.

Rather disconcertingly, the system is interactive, with a sultry

female electronic voice answering "OK," or, when confused, "Please Try Again."

Interactive computing, as yet, is decidedly limited, as Wilmont would quickly discover if he ventured into a local installation. Here he would find the operations team vocally abusing the system, closely followed by the system engineer when addressing the troublesome disc controller.

Until such time as Hal operating systems become standard issue, the installation will have to confine verbal comments to end users and senior company management plus a word or so directed towards the equipment sales manager. Other conversation outlets could include the stationary supplier, installation plant or news.

At present voice recognition systems are somewhat inflexible. Having recorded your voice, the system will only identify closely aligned speech patterns. Any deterioration or deviation in the voice, covering perhaps urgency, concern or emotion will result in non-comprehension and frustration all round.

Given the normal computing working environment, such a requirement would be hard to maintain. Similarly, problems associated with installation, flexible rostering would present speech recognition difficulties.

It may be, of course, that ICL is already engaged in speech recognition research. As has been revealed in the American current best-seller *The Soul of a New Machine*, given determined commitment by a dedicated team of research engineers, together with a tight timescale, almost anything is possible in technology.

The book details how a group of Digital Equipment engineers left to form their own company and set about producing competitive products. The soul alluded to in the title is that of a 32-bit mini.

The book is noted for some rather heavy non-computer language, which surely even a very down-to-earth configuration would fail to recognise. However, the book is assured of a good UK response, if only from the already committed body of DP professionals.

Alan Simpson



"If they go bust they'll probably be the last to find out."

Conversation piece

OVERHEARD by one of my correspondents, a conversation between two computer operators. First op: "He's great, he's always over the air." Second op: "He's not, he's just a fool."

Hair splitting

I FEEL that a hair is split in this extract from The Computer Journal: "For KPK it takes months to write a good program, and even longer to produce a correct one."

KPK is the chess end game between a King and pawn on one side versus a King alone.

ComputerWeekly

Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS
Thursday, March 25, 1982

The public has a right to know

THE policy name is privatisation. The practical reality of the government's decision to sell off publicly-owned companies is that the price the public gets may be taking second place to the urge to sell. Worse still, spurious claims for commercial confidentiality leave a suspicion that price tags are being attached to some companies which risk seriously under-valuing them.

Take first the issue of commercial confidentiality. The National Enterprise Board's announcement that it will be disposing of part of its stake in Immos, the semiconductor manufacturer, is hardly news, though the expected price of £30 million is. But there are a number of Americans to whom the potential sale will be even less of a surprise than it should be.

A group of financial institutions in California and the American mid-West were approached, around the time of the Wescon semiconductor show in San Francisco last September, by senior members of Immos. Although the details are still obscure, the Immos men were apparently looking for money for an anticipated buy-out. This is fine, except that Immos is a publicly-owned company, and matters as vital as its funding should be the material of public concern rather than private deals.

Which brings us to the case of Data Recording Instruments. DRI is the print and magnetic media subsidiary of the NEB. In its last financial year (1980-81) it lost £9.5 million. It looks like losing £10 million in the year just ending, which must make it an ideal candidate for sell-off if a buyer can be found.

This should not, however, be allowed to happen without a more detailed rendering of its accounts than can be found in the one line summary which appeared in the NEB's own books last year.

The NEB — it has not yet legally become the British Technology Group — claimed that the £9.5 million arose from the start-up of a company called United Peripherals, based at ICL's old Winsford factory. The start-up is being managed by Control Data Corp, which has a 24% stake in the new venture. DRI holds the remainder.

The problems of the valuation of DRI arise because of the very different attitudes to the scale of the United Peripherals project currently being displayed. Control Data is surprised to hear that it is managing an operation which is set to swallow £20 million in its first two years. As well it might. Short of placing the walls of Winsford with gold, it is hard to see how £20 million could be spent there in that time.

Which raises the question of disclosure once again. The deal over United Peripherals was a secret one, with neither the price paid for Winsford nor the terms of the start-up being disclosed. Yet the public has put up most of the money through DRI, and has a right to know how much it can expect when the DRI sale goes through.

Based on the lack of disclosure so far, it is well within permissible bounds to inquire if losses, particularly those of the order of £19.5 million, arise from the causes quoted.

It is also pertinent to inquire whether those losses are not being so allocated as to make NEB companies look a lot less attractive to potential buyers than they otherwise might. The beneficiaries, in that case, would be the private sector organisations which eventually end up with ownership.

When State-owned enterprises go into partnership with private finance for the greater public good, it is essential that the public knows the value of the "good" as it relates to the disposal of its assets.

The NEB has nothing to fear from such disclosure. Over the years it has been a passably good steward of the funds it used, even though its failure to spend all the sums allocated to it might make it a less than satisfactory servant of public policy in some eyes.

It must not, however, hide behind claims for commercial confidentiality, as it is now doing. Without all the facts, the public cannot know whether its interests in any disposal of its property to private enterprise are being properly served.

1984 and all that . . .

THIS week's example of the strange things people say about computers was sent in by J. A. McCurdie, who wins £5. Logtek supply computer systems that are designed for earth people, speaking conventional earth languages, to use to run their businesses better.

Advertisement for Logtek

LETTERS

DPMs beware micros!

DAVID Ferris in his article *Micros in the DP World* (Software Month, CW, February 25) claims that the DP man has nothing to fear from micros because they will make their way into the DP user's world in an evolutionary fashion, as standalone dedicated Visicalc or Wordstar engines, or dumb terminals.

These top managers are beginning to put two and two together: 32K on the desk is worth 256K in an ivory-tower computer room.

It would be more self-protective for DP managers to embrace the micro, like the group DP director of a French multinational cosmetic firm who five years ago told me that the future lay with distributed processing. His strategy was to throw out the IBM 4341 and 1335 then installed in his firm all over the world, and break up the office staffs into "cells" of two or three people each with VDUs and a printer and a microprocessor, linked to larger databases if necessary.

Full of excitement, on my return to London, I wrote a report on this heretical concept to my company's market planning division. They did not even acknowledge my letter. But that was five years ago, and there are people in 1982, like David Ferris, still with their heads buried in the sand.

So, to survive, I recommend DP managers to make like my French friend, get off their butts, and build their future round networks of users, local or remote. If they sit shivering in their air-conditioned computer rooms imagining it is still 1975, they will not last long.

RICHARD SARSON
London SW20.

AL/X sold under licence

I READ with interest Philip Hunter's article *Artificial Intelligence reaches Novice Users* (CW, February 11).

I must correct one error. Mr Hunter asserts that AL/X, the expert system language developed by my company, Intelligent Terminals, is priced at £10,000. This is

not the case. AL/X is sold under annual licence, and costs £3,000 per annum with 50% discount for prompt payment.

The tabulation below is intended to untangle a mix-up which Mr Hunter has seemingly made between AL/X and SPL International's lookalike Sage.

Company	Expert System Language	Status	Price
Intelligent Terminals Limited	AL/X (no arithmetic input at runtime)	Commercially available since 1980 for VAX, DEC-10, DEC-11 series, Cyber 175, Superbrain and Apple	£3,000 p.a.
SPL International	Sage (AL/X look-alike, with arithmetic)	Under development	£10,000 (mainframe users) £2,000 (micro users)

Donald Michie
Chairman

Intelligent Terminals Limited,
Oxford.

Who really writes '1984'?

ON reading 1984 and All That (CW, March 3) it struck me that those who write these gems in newspapers must get their information from someone.

It can only be those who show them round as installation or par-

ticular machine. Maybe all your 1984s are an indictment of people who can't explain how computers work to laymen.

MRS V. G. WOODLAND
Llanedeyrn, Cardiff.

Civeware File by Don

I DON'T CARE IF HE WAS ON THE CRUICKSHANK PICKET LINE...
...NOR IF HE WENT TO GIRE FOR HIS HOLIDAYS...
...NOR IF HE IS EITHER ILL OR ON THE DOLE...
...DOES HE OWN THE CAR I WANT TO BUY?



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Aregon does offer graphics

YOUR report of the ADP/Aregon link on videotex (CW, February 23) was of course, entirely accurate, but Mr Poulter (Letters, March 18) is somewhat awry in suggesting that Aregon has no interest in high resolution graphics.

Our Audio Graphics Processor, based on our joint development of Cyclops with the Open University, has been successfully sold and delivered with a number of our IVS-3 videotex systems, and the ADP/Aregon service offers a wide range of videotex graphics capability

from the basic Prestel, CEPT and the rather limited Telidon capability to full videotex graphics.

Anthony Chandor's remarks confirmed the fact that, while a number of people do need a full videotex graphics capability, it is for only a small percentage of their work. Text remains a quite important tool for communication.

JOHN GRAHAM
Marketing director
Aregon International Ltd
London WC2.

Vehicle scheduling suite

I REFER to the article by Maggie McLening (CW, March 11) regarding the Buman suite of computer programs which is being developed by Wootton Jeffreys & Partners.

I would like to point out to your readership that although Merseyside Passenger Transport Executive is currently experimenting with the operational parts of Buman, particularly vehicle scheduling, there is as yet no commitment to use of the suite for marketing

purposes to provide information for passengers.

The Executive is currently considering such a development, in consultation with Merseyside County Council's Joint Computer Unit, but no decision has yet been taken.

M. P. WHITE
Marketing manager
Merseyside Passenger Transport Executive
Liverpool.

Joint marketing with IBM

I WAS pleased to note your correspondent's positive remarks (CW, March 11) regarding Floating Point Systems' revenues and profits.

I would, however, like to correct the statement made regarding OEM deals with IBM and Digital Equipment. FPS has a joint marketing arrangement with IBM under which the two organisations may co-operate to offer a combination of their equipment to meet clients' needs.

JOHN HARTE
Director European marketing
Floating Point Systems UK Ltd
Bracknell, Berks.

The Editor welcomes letters commenting on subjects published in Computer Weekly, or on original topics. All letters must be accompanied by the writer's name and address, not necessarily for publication. Letters may be cut.

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Clare is out to set up a novel record

WORD processors have threatened to revolutionise the novel writing business for several years, but few authors have yet taken them up. Perhaps they fear that the fragile creative process would be hibernated in the artistic Arctic of information technology.

Not so the record-breaking yachtswoman Clare Francis who has bought herself a word processor.

"It has quickened up my output immensely," she says.

The system was tailored for Francis by Key Computers of Poole, Dorset, on a DEC LSI from the LEX II word processing software.

Francis has already used the system to write a script for a forthcoming BBC 2 documentary on Somerset Maugham.

Her novel, she says, will consist of about 130,000 words and be a thriller "based on factual events."



FRANCIS... Using DEC word processor to write a thriller.

Spoke in the wheel of the case for simplicity

THIS path of simplicity leads to the palace of wisdom. Or does it? For so long has simplicity been lauded as an absolute virtue, I suppose it was inevitable that a counter argument would develop.

An engineer writing in New Scientist attempted to incinerate the myth that simple is best. He cited the example of the bicycle, often hallowed as the ultimate in pragmatic simplicity.

So simple in fact that an Irish philosopher was once driven to write: "God would ride a bicycle."

Maybe. But this engineer sees in the bicycle the complex handwork of ball bearings, sprockets, roller chains, the free-wheel and gear changing mechanisms," he writes. "The pneumatic tyre required advances in the processing of rubber. Lightweight frames needed thin-walled drawn steel tubing."

The writer further argues that simplicity is an illusion protected



The bicycle... an illusion of simplicity?

for us by a black box or instrument panel behind which lurks ever more complex machinery.

Translated into computer jargon, his argument could be encapsulated in the cliché: End user simplicity implies programming complexity.

I think there is some confusion here over terminology. Surely simplicity as understood in the context

of technology is a continuous rationalisation of an ever more complex world, a maintenance of understanding such that we are not run off our feet by a tide of abstraction and jargon. Simplicity should not be confused with triviality.

When writing software, simplicity is spelling out every step and avoiding complex contractions of code which are difficult to read. As such, it has become universally accepted, even though the system as a whole may be complete. (Correction: Especially as the system is complex. Simplicity is a goal, not an option.)

But it can also be a danger. With so many people writing small programs at home, or for specific problems at work, there is the erroneous belief that amateur skills so acquired can be easily extrapolated to writing economic systems of greater size. We all know this should not be done without acquisition of skills in systems analysis, yet it is done.



SIMMS... CCL switched from Coral to C for greater power and flexibility.

Challenge for the real time programmer

DESIGN of intelligent controllers is one of the most challenging applications for real time programmers. Since these are often used on production lines, complete system testing is usually impossible and often has to be simulated on hardware using an array of panels and switches.

It is then impossible to anticipate all the problems that might arise when the physical connections have been made.

Sometimes calculations of the timing of labelling machines and pneumatic handling devices fail to allow for some unforeseen lag in the system. Or worse, the timing is sometimes inconsistent and therefore impossible to predict. In this case the program driving the equipment has to interact in a more dynamic way with the sensors.

Such considerations have to be made by the engineers of Cambridge Consultants (CCL) which specialises in production control and other real time systems.

John Lumley, a member of CCL's software group, emphasises that a trade-off has to be made on production control projects between getting started on implementation and obtaining a correct specification.

For one machine control project CCL decided it needed to write an operating system since there was no proprietary one capable of the high speed necessary to run concurrent production processes from just one controller.

This consists of a small executive stack that handles the swapping around of various tasks on the production line, and a recursive

condition evaluator. It avoids the need for a sophisticated time slicing system and, according to Lumley, gives the programmer the security of knowing he is not going to be swapped out at some vital point.

CCL began writing controllers in Coral, but later switched to C. "It allowed us greater uniformity and power, but is more dangerous," says Peter Simms, head of the software group.

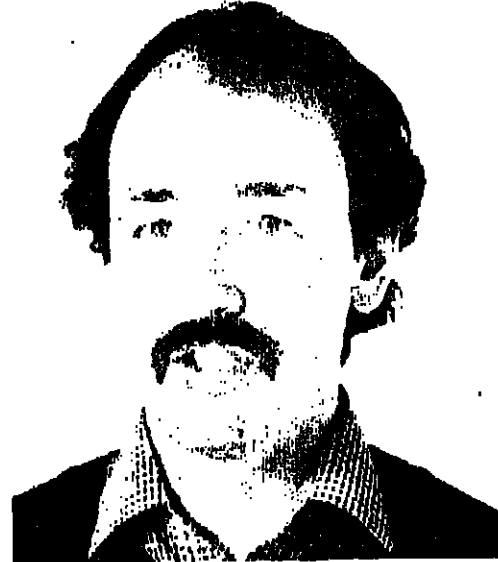
One of the dangers, also a strength for CCL, is that no distinction is made between function names and ordinary variable names. This is a potential source of error, but facilitates the construction of interpreters from large tables of function names, which can be passed as arguments in sub-program calls.

Lumley explains that this facility enables a particular production process to be restarted according to the state of a tree of boolean conditions and function calls.

PUZZLER

x x 3 x
x x 3
x x x x x
x x x 3 x
3 x x x
x x x x x x

This skeletal multiplication sum contains only five 3s, all of which are given as clues. The problem is to reconstruct the rest of the sum. See page 45 for solution.



McCarthy... "ICL does a pretty good job."



YOUNG... "Most ops managers realise potential."

Staff training - matter of course for the manager

BEEN on any good courses lately? Or does your training involve being stuck in an empty office with a stack of manuals to read?

During my five years in operations, I was not sent on a single course. In those days (not that long ago) operators just didn't go on courses - they were expected to pick it up as they went along.

It was not until I moved into systems programming that anything vaguely resembling an official training plan appeared, and I went on my first course (George 3 tuning and diagnostics).

No one expects a trainee programmer just to muck in and learn the rudiments of Cobol as they go along, so why should operations be different? Any company that thinks the enhancement of operator skills is a waste of money is sadly deluding itself.

One organisation which believes in getting the most out of operators is Protocol Operations, based in Reading. Formed at the beginning of last year by a group of independent operations consultants, Protocol provides a wide range of structured courses for operations staff.

All the staff at Protocol have at least ten years' operations experience.

"It's important that the lecturer and the students are on the same wavelength," said general manager Peter Young when I spoke to him last week. "We won't take on anyone as a lecturer who hasn't been in operations."

"We're looking to improve productivity by tuning-up people," said training consultant Alan McCarthy. "It's like a car - you won't get the best performance out of it if it's not in tune, and training is a good way of giving people a tweak."

The courses provided range from an introduction to the fundamentals of computers, through IBM-oriented operations and JCL writing, to communications, management and contingency planning.

The concentration on IBM education is explained by McCarthy: "There are a lot of IBM sites around, but operations training from the manufacturer is restricted to video courses - and ops don't serve better than that. ICL, on the other hand, does a pretty good job."

One of the problems in finding lecturers is that of locating people who are not only technically competent, but can put their points across clearly.

"The two qualities are not easy to find in one person," said Young. According to McCarthy, the most important stage in an operator's career is the transition from operator to senior op.

"It's the point where they stop being one of the lads, and become supervisors," he said. "At this time they decide where their future lies. The technical learning curve flattens out, and the supervisory skills curve takes off."

I asked what jobs lay ahead for an operator at this stage.

"Shift leader, then DP manager," replied McCarthy. "You know of some DPMs with an operations background then?" I asked. "There are some," said Young - but he was unable to bring their names to mind.

If there are any out there, please get in touch with me. Asking what the training market was like at the moment prompted this response from McCarthy: "Training is the easiest thing to knock out of your budget if times are hard, because it doesn't show an immediate return. But you can save a lot of money by having your operators knowing what they're doing."

And from Young: "There are more people coming on courses since the beginning of 1982 - it appears that industry is beginning to recover."

They agreed that supervisory training was a bit of a luxury for some sites, and that more immediate benefit could be gained from the technical courses. Seminars and forums are not in much demand at the moment, but Protocol is confident that this will change.

McCarthy says the operator's role has changed. Where once ops had to do everything ranging from repairing hardware to correcting software errors, there are now two types: tape loaders and technicians.

What used to be the shift leader's job is now split between the shift leader himself and systems programmers, communications and other specialists.

"JCL writers and systems programmers should be part of operations," said McCarthy. "And operators make the best ones - they have the global view and are not blinkered like a lot of applications programmers."

"Operators are not satisfied with sitting at desks," he added. "They like it when it's really busy, and get bored if things slow down."

According to Young, some ops managers say they are not in-

terested in training their staff. "But most realise, the potential and try to do something about it," he concluded.

The odd experience of trying to make a start in operations

HOW did you start in computers? As a trainee operator? So did I. But it now appears that the industry demands experienced staff for even the most junior positions.

Martin Gadsby is 21, and lives near Nuneaton. Last December, he completed a three-month TOPS course in computer operations, gaining practical experience on an ICL 290.

Since then, he has applied for over 1,000 operations vacancies, and has not yet received a single job offer.

When I spoke to him, he said that most of the jobs he had applied for required more experience than he had.

As we spoke, an application form fell through his letter-box. On opening it, he discovered that the operator vacancy for which he had applied required one year's Cobol experience.

I asked if he had considered a TOPS course in programming.

"I can't do another for three years," he replied. "Unless I can get a job, I can't do a course, and I can't get a job without doing the course."

"Surely there must be someone somewhere who can give me a chance."

I talked to KBS Computer Services, the company which ran Gadsby's course. Of the 15 who started, three left due to illness, seven now have jobs, one has a job lined-up, three may or may not be employed as KBS has lost contact with them - and the remaining one is Gadsby.

A spokesman for KBS said, "He had a reasonably high aptitude, 71%, his highest mark was 77%, his lowest 35%, and overall he came out about average."

So why hasn't he been able to find a job?

"He must write his application letters in Swahili," replied the spokesman.

I pointed out that Gadsby had sounded reasonable enough to me when I spoke to him.

"Perhaps I've got more experience of interviewing than you have," answered the KBS spokesman.

It seems strange that you need experience to get a job, but that

the only way you can get experience is by getting a job, but that you need experience before...



GADSBY... "There must be someone somewhere who can give me a chance."

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So don't let your work get on top of you. The Bitsy Secrétaire will give your secretary the time to be your personal assistant. After all... you deserve a helping hand.



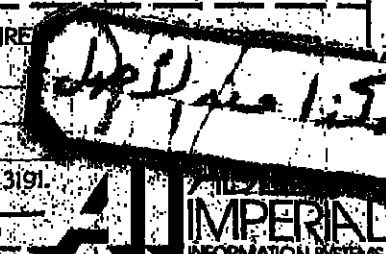
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The way business is going

Mercury appoints chief and directors

HAVING been granted a licence to operate a telecommunications system in the UK, Mercury Communications has named Derek Evans of Cable and Wireless as chief executive. The company has also elected a board of directors.

Evans has been with Cable and Wireless since 1972, serving most recently as regional director responsible for Bermuda, the Caribbean, Central and South America and the Atlantic Islands. Before joining the company, he worked for the Post Office and also held posts with telephone administrations in the Caribbean and the Far East, and Hull Corporation - a British independent telephone company.

Committee chairman

THIS British Computer Society's Committee for the Disabled has elected Frank Ellis as chairman to replace Julia Schofield, who vacates the post after two-and-a-half years.

Ellis has been treasurer and membership secretary of the British Computer Association of the Blind for the last six years, and is himself blind. He works at the computer branch of the Central Electricity Generating Board in Stockport, Cheshire, as a third engineer programmer.

On May 12 the Committee is holding an employers' reception at the BCS headquarters in London.

Eugene Rawles has been appointed vice-president and general manager at Sperry Univac minicomputer operations. He was formerly VP of marketing for MCO throughout the US, and will be based in Irvine, California.

development of the Mercury network will be in the City of London, scheduled to be in operation in the first quarter of next year. The rest of the system will be introduced in phases to connect British major commercial and industrial centres.

Board of directors is John Bird, Peter McCann (Cable and Wireless), Ronald Watson, Charles Morland (Barclays Merchant Bank), Quentin Morris and Bryan Mason-Smith (BP). Peter Cott of Cable and Wireless has been named technical director and Geoffrey Gresson of BP becomes senior project manager.

Mercury is owned by Cable and Wireless (40%), BP (40%) and Barclays Merchant Bank, which has a 20% share.

Peter Corthine has joined BIS Applied Systems training division as principal consultant. He was previously manager of educational products at ICL, where he developed "non-classroom" training programmes using computer-based training.

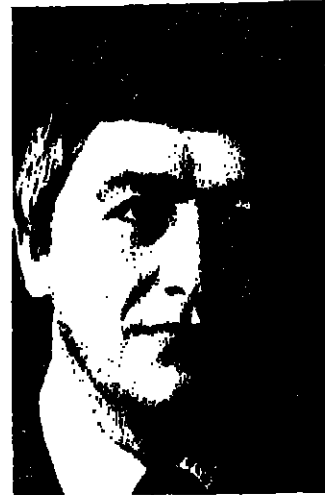
Geoffrey Plaves has been appointed sales director of Prime Computer's UK operations. He was formerly Northern operations director at Sperry Univac.

Bill Stevenson, previously account manager for the Irish banks with Burroughs, has joined Philips Business Systems' Colchester-based data processing division. He will specialise in financial terminal systems.

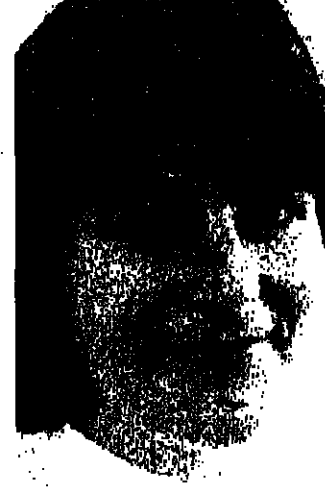
Diane Redfern has been appointed export administration executive at Stampington Group. She joins from BOC where she exported various gases to all parts of the world. Also joining the company is Brian Curry, who has been named sales office manager. He formerly spent 10 years with Samuel Jones.



Joining Microsystems Services as product manager is Darrell Watson, formerly a sales engineer at Tektronix. His career has included working on the development of the System X program at STC, developing software for Hoskins and Computer Resources, and working as sales support engineer in the European systems division of Texas Instruments.



Bill Adams has been appointed technical sales manager at Positron Computers. He previously worked for Oldham-based Lock Microsystems as microsystems marketing manager, and before that was with Ferranti. Positron, which is based in St Helens, has recently started production on a multi-user, multi-tasking microcomputer.



Diana Cook has been promoted from technical support consultant to manager, technical support, at MFSL. She joined the company last year from CAP, where she started as a programmer over eight years ago. This was followed by promotion to designer, and later systems analyst. She holds an honours degree in mathematics.

Two for the board at Baric

THE Baric board has made two top appointments. Peter Bonfield of ICL has been appointed chairman, and Owen Rout of Barclays Bank has been named a director and deputy chairman.

Bonfield has been on the board of ICL since October 1981 as director of marketing operations. Before that he was worldwide strategy manager for Texas Instruments based in Dallas, Texas.

Rout is general manager at Barclays, with special responsibility for branch banking. He has also served as chairman of the bank's West Yorkshire local board, and before that was regional general manager for the East Midlands and the East Angles region.

Consultant

MICRODIGITAL founder Bruce Everiss has joined B&B Computers as a consultant. Microdigital was among the first microcomputer retail outlets in the UK. It was bought by the Ladbroke group in 1980, two years after its formation.

He then became manager of Ladbroke's microcomputer division, operating from Laskys stores across the country. B&B is based in Bolton and Everiss will be advising on marketing policy and setting up a mail order division.

He then became manager of Ladbroke's microcomputer division, operating from Laskys stores across the country. B&B is based in Bolton and Everiss will be advising on marketing policy and setting up a mail order division.

Chris Evenden has been appointed programmer at Bousai, the newly formed microcomputer and software company. He was previously with ICL.

Gillian Spurgeon has joined Rediffusion Computers as a systems controller. She was previously with IBM, as an administrative assistant.

Norman Wright has joined Microtech Management Technology as sales executive, responsible for large accounts. He was previously self-employed, selling micro systems and writing software packages for the clothing industry and car hire businesses.

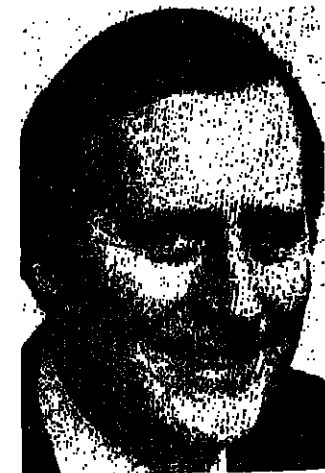
Marie Hines has been appointed manager, production and billing, at MFSL. She joined the company two years ago as production supervisor.

Telecoms boss for Philips

TMC, the telecommunications arm of Philips Business Systems Group has appointed a managing director to replace Brian Manley. He is Frank Onians, who since 1979 has been director of marketing and planning at Plessey Telecommunications. Manley is now concentrating on his role as group managing director at Philips Business Systems.

Onians joined the Ministry of Supply in 1952 to specialise in airborne radar developments, and three years later went to Marconi where he worked in airborne navigation systems.

In 1965 he joined Plessey and took on responsibility for satellite



Onians communications operations, going on to become manager of the radar equipment division. He was subsequently promoted to director of strategic planning at Plessey Telecommunications, and in 1978 became director of the transmission division.

DIARY

MARCH 31

Annual General Meeting. IDPM Norfolk branch. Castle Hotel, Norfolk. 7.45.

Communications between users and computer people. Joint meeting of IDPM Kent branch and Chartered Institute of Secretaries. Oak Room, Royal Star Hotel, Maidstone. 7.30.

APRIL 1-3

Portable software - Modular II and Small Talk. USUS (UK) conference. Lancaster University. Details Chris Sadler on 01-980 4811 ext 650.

APRIL 7

The increasing popularity of APL. IDPM Central London branch. Altergo Software, Imperial House, 15-19 Kingsway, London. 6.30.

Branch AGM. IDPM Sussex branch. Room G27, Mithras House, Brighton Polytechnic, Moulsecomb, Brighton. 7.00.

CONFERENCES

MONOTYPE's third digital type and graphics seminar will be held at Queen's College, Cambridge from July 7-9. Speakers from both sides of the Atlantic will represent manufacturers and users of imaging equipment, from the printed page to the VDU. Topics covered will range from newspaper typography and advertising to the imaging techniques used in Cefix and intelligent laser-based printers. Places on the seminar, which is residential, are limited to 150. Details are available from Sue Dunn, Monotype, Salfords, Redhill, Surrey RH1 5JP.

APRIL 13

Social evening - wine and cheese. IDPM West London to Oxford branch. Bull Hotel, Garsdale Cross. 7.30.

APRIL 14-15

Applicative programming - an emerging technology. Annual open lecture of University of St Andrews, Scotland. Details from Computational Science Dept, John Honey Building, North Haugh, St Andrews, Fife KY16 9SX.

APRIL 28

PABX, speaker from Mitel. BCS Data Comms Specialist Group. BCS Headquarters, Mansfield Street, London. 6.00.

MAY 19

Ron Adam from British Telecom on the first year's experience running SwitchStream 1 packet switched service. BCS Data Comms Specialist Group. BCS Headquarters. 6.00. Details Peter Radford on 01-636 5440 ext 205.

A CONFERENCE which will examine the impact of new technology on information systems, organisations in the public sector, and on the public, has been organised by Lamsac and will be held in Vienna in February 1983. Lamsac is calling for papers from both the private sector and from within local government on computing in government. Abstracts of papers, between 500-600 words, should be submitted by April 15 this year. Details from Roy Barnes, director of Lamsac and chairman of the programme committee, at 3 Buckingham Gate, London SW1E 6JH.

Joint MD

DEREK BOND, technical director at Bell and Howell, has been appointed joint managing director of the company's recent acquisition, Datalab. He will keep his original responsibilities, and will operate from offices in Mitcham and Basingstoke.

Before joining Bell and Howell he was technical manager with Wayne Kerr, and his early days in the industry were spent with Plessey.

John Irwin has joined Ace Microsystems to head the company's software product development team. He was formerly technical manager at Filelab Support Services.

Stephen Peerless and Barry Shoebridge have become national account managers at Eurolink. Peerless joins the company's London office. He was formerly with VLI, based in Los Angeles. Shoebridge, who is based at Eurolink's Brighton office, was previously a sales supervisor, also with VLI.

Maria Seaman has been appointed marketing communications manager at Prime Computer (UK). She was previously with Systime for three years, where she worked latterly as marketing services manager.

Bruce Thompson has joined Philips Business Systems Viewdata as technical product manager. He was previously based at Philips Video's UK manufacturing centre in Croydon.

Roger Prew has been appointed export sales manager at Turnbull Control Systems. This is a new post, which Prew takes on after four years as the company's industry sales manager for the South of England.

COMPEC

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Compec is not the only computer exhibition in Britain. But it's the only one which is national, professional and covers the whole spectrum of computer use.

Established in London at the heart of the country's biggest computer using region, Compec has consistently attracted large numbers of users, potential users, manufacturers and suppliers. More, in fact, than any other UK computer show of any description.

Established 10 years ago, it is now firmly identified as the key computer market place in Britain.

A £2 entry charge deters the casual caller, the student and the general public. Yet in November 32,756 visitors were attracted to Compec 81.

All were computer professionals. No other computer exhibition can match the numbers, and no other computer exhibition can match the quality. Watch for Compec 1982. With more exhibition space and the same Central London venue, it will be even bigger.

Compec is now also in Manchester (Compec North June 22-24), in Glasgow (Compec Scotland September 7-9), and in Brussels (Compec Europe May 4-6).

Compec. Britain's only professional computer show.

- and this is your chance to reach them:

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Please send me details about exhibiting at
Compec (Olympia, London) Nov 16-19
Compec North (Manchester) June 22-24
Compec Scotland (Glasgow) Sept 7-9
Compec Europe (Brussels) May 4-6

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ALLEN LANE

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Hole-in-the-wall cash dispensing is only part of the move towards self-service . . . Anthea Ballam reports

NatWest pins its hopes on automation to attract new customers

THE war between the clearing banks has always appeared a gentlemanly sort of affair, but in truth it is a vicious and swinging struggle that has now struck out as far as the building societies. The repertoire of armaments is variable but the services that have been borne out of new technology constitute a major weapon.

New technology is clearly seen as an important method of enticing new customers and the British, as one of Europe's most unbanked nations, are perfect targets for the hole-in-the-wall automatic teller machine (ATM) marketing strategy.

The automatic dispensing of cash is now considered a major selling point for the banks, so much so that last year NatWest widely advertised the attractions of its 24-hour banking facilities.

Unfortunately the timing of this publicity campaign was not the best, the distribution and availability of the Service till at that time sadly failing to meet expectations. An energetic installation programme has since overcome this problem and in December 1981 the bank celebrated the inauguration of its 500th Servicetill, thus placing it ahead of its nearest rival, Lloyds in the great ATM technology race.

Today, according to NatWest's publicity, the bank runs more

round-the-clock cash dispensing terminals than any other in the world.

Statistical information showing public acceptance of automatic cash dispensers is impressive: weekly cash withdrawals from ATMs is now running at well over £10 million, having stood at £4 million in the previous year.

Nevertheless, the average value of a transaction is low — roughly

The staff would not be at all pleased if we took the systems away. I believe they would find it very irksome if they had to return to their previous manual procedures

£23. This indicates that users do not feel embarrassed at making low-value cash withdrawals via an ATM, as they might do by writing out a cheque at the counter. The number of enquiries for balances and cheque books has also doubled

and now stands at around 140,000 per week. By the end of next year the bank expects to double up on all these figures, by which time it will have over 1,000 ATMs in operation.

NatWest is a wide-ranging buyer (unlike Lloyds which has become one of the most dyed-in-the-wool IBM users on record). NatWest prefers to make a point of using a choice of suppliers, its ATMs (the models 770 and 1780) come from NCR and it runs IBM mainframes.

This policy of using a choice of suppliers is loudly advocated by Cyril Townsend, general manager of the Management Services Division. Townsend's vast range of responsibilities embraces all DP and clearing operations as well as printing, stationery purchasing, O&M, and even catering.

It is significant that Townsend is essentially a DP boffin despite the variety of his concerns, and his auspicious history includes managing directorship and chairman of Centre-file. Despite his reticence to talk publicly, he emerged from his ivory tower last year to drop some scary pearls of wisdom into the ears of the public.

His greatest boast involves new plans for a totally automated bank, which will operate out of normal banking hours and provide cash



TOWNSEND . . . Plans include a totally automated bank.

withdrawals and dispensing facilities to the visitors of a large shopping centre.

It appears that such totally automated banking facilities are an important feature of NatWest's future plans, the only impediment being objections on the part of the unions, CBU (Clearing Bank Union) and BIFU (Banking Insurance and Finance Union).

Yet objections from the union sector are less likely to affect brand-new projects than the automation of existing branches. Moves to automate at branch level have to be taken with great care and delicacy.

Brian Keyte, NatWest's senior executive in charge of planning and development, has been tactful in the introduction of automation at branch level.

Keyte chose Surbiton for his first project experiment. The manager at the chosen branch was highly co-operative, and following an initial pilot scheme last May it appears NatWest is now set to extend the experiment.

This scheme was based on the installation of an IBM 8100 communications-oriented minicomputer running at the main branch with eight video terminal users accessing the system locally and others at another smaller sub-office at Hinchley Wood. The system maintains customer names, addresses and historical records, in addition to selected security records.

After some doubts that the scheme might undermine the authority of the manager, the system emerged as a public relations success, with the branch manager enthusiastically praising the contribution of the computer and the pioneering work carried out by the systems development team at Goodman's Fields, as well.

Brian Keyte pointed out that "although we retain the manual records the staff at Surbiton would not be at all pleased if we took the systems away . . . I believe that they would find it very irksome if they had to return to their previous manual procedures."

This seemingly modest, but important move is being followed up by similar schemes, using both packaged and custom designed software.

There are as yet no reported efforts to integrate such facilities with full-blown word processing systems. These are for the most part centralised within the bank, and tend to handle specific tasks, like the RS Wordplex standalone systems in Birmingham used by international and home loans documents and standard letters.

The bank also appears to be more involved with the prospect of

interfacing WP systems with its mainframe configurations rather than surreptitiously introducing such units at the branch level.

Meanwhile, back in Surbiton there have been many object lessons on the implications of introducing business and administrative computer systems at branch level. Managers will clearly have to learn some different skills, such as the adoption of customers' historical notes recorded during interviews.

Such constraints may be somewhat distasteful to some of the more hardened, long-serving bank managers, and clearly NatWest's operations management is going to have its work cut out to gain immediate acceptance of such innovations.

Another lesson learnt in the Surbiton experiment concerned ergonomics. Banking office paraphernalia is infamously cumbersome and the video terminals involved in the experiment were no exception.

People don't necessarily want a full range of services such as ordering travellers' cheques or arranging loans, so we are interested in providing self-service banks. They may not be totally unmanned. Somebody will be there, just for guidance

Future projects will, according to Brian Keyte, require the use of smaller VDUs.

The Surbiton project was particularly interesting because the branch and sub-branch used the system for their own internal records, but a significant quantity of data was also regularly communicated from the 8100 to the vast mainframe configuration at Goodman's Fields.

NatWest's central data processing facilities are located at Tower Hamlets, Goodman's Fields, and Keyworth in the Midlands.

The Goodman's Fields centre is its pride and joy, for reasons in-

cluding its remarkably speedy planning, building and occupancy cycle in around four-and-a-half years. It gained further attention some months ago as the first in Europe to install a 16-megabyte IBM 3081, pipping Lloyds at the post.

The installation of the latest in IBM's heavyweight systems will be followed by a further three 3081 units.

The work carried out at Goodman's Fields is hefty, involving record-keeping for some 10 million accounts and clearing about two million cheques a day.

In addition to this the bank runs dedicated systems handling everything from personnel records and traveller's cheque processing, to standing orders, direct debits, international operations and SWIFT (Society for Worldwide Interbank Financial Telecommunications).

A number of medium-scale 3033 systems drive a further 5,000 terminals, which (in support of the bank's philosophy of selecting from different suppliers) came from Burroughs.

Despite this belief in purchasing from a selection of suppliers Cyril Townsend does not show enthusiasm for some of the smaller manufacturers on the banking scene, like Fortronic. On his own admission he likes to see the bank buy from the larger, more financially robust companies.

The future of NatWest looks to be biased in favour of developing retail point-of-sale systems. Having reached an agreement on point-of-sale last November, the clearing banks will be looking to the NCRs, Philips, Chubb and IBMs for some useful solutions, and NatWest is likely to be in the forefront of those planning the developments, along with further ingenious strategies for automated banks.

"People don't necessarily want a full range of services such as ordering traveller's cheques or arranging loans," pointed out Brian Keyte, "so we are interested in providing self-service banks. They may not be totally unmanned. There will be somebody there just for guidance."

Automation promises a bright, complicated future for NatWest. There will be more ATMs, more automated facilities for paying money in, redirecting it, establishing standing orders or cancelling them.

It is also likely that NatWest's recent interest in video systems signifies a future trend, although videodata-style home banking is still a distant prospect for the time being, according to Cyril Townsend.

PRODUCTS



Protective disc file

A STORAGE system for mini discs (above) which will encourage operators to file discs correctly, avoiding the risk of errors from dust or mishandling, has been launched by Willis.

The Willis Mini Disc File has 10 sections, each with a lift mechanism which enables discs to be displayed five at a time. Each disc is positively located in individual guides, remaining filed whether the box is full or not.

Lockable and stackable with non-slip rubber feet, the file can be carried easily and safely around the office, says Willis.

Willis Computer Supplies Ltd (CW), PO Box 10, South Mill Road, Blapthorpe, Stortford, Herts.

Data terminal is also a typewriter

A DATA terminal/electronic typewriter which can be used online to a range of computer systems has been launched by its distributor, Dataplus. Scripta II is manufactured by Olympia International in West Germany.

The typewriter will be available in both RO and KSR versions, each offering the same range of features and options. Features available for the first time on the Scripta range are as follows:

- A 17" carriage as standard;
- Can be specified with either RS232, Centronics or Commodore Pet interfaces;
- The KSR is based on Olympia's ES105 daisywheel typewriter, having as standard, 10, 12, 15 characters per inch or proportional spacing;
- Scripta II incorporates a 4K buffer store selectable to 2K or 0, depending upon the type of application;

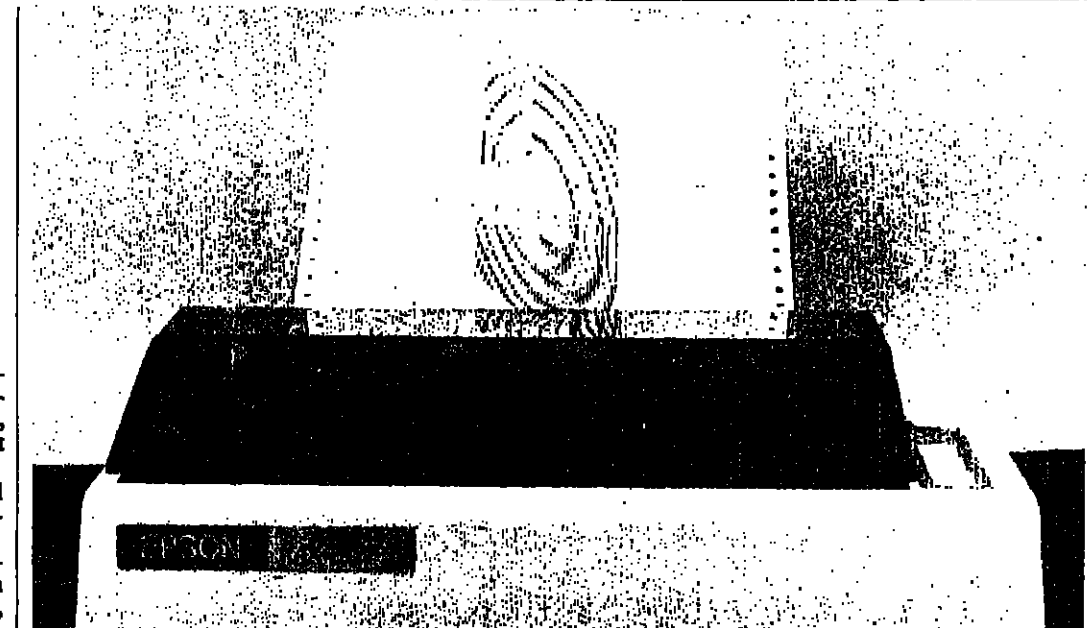
Operating noise has been reduced to minimum, by incorporating a hood over the typing area, making the unit one of the quietest currently available;

— Both RO and KSR can be fitted with tractors and single sheet feeders;

— 12 exchangeable daisy type-wheels will be available, each providing 96 standard, italic, OCR-B or scientific characters, while carbon or fabric ribbon cassettes in various colours can be supplied.

The dual-purpose KSR has been designed for use online to all mini and microcomputer systems. Offline the KSR takes care of all normal office typing requirements via a control on the keyboard, says Dataplus.

Dataplus Ltd (CW), 39-49 Roman Road, Cheltenham, Glos GL51 8QQ. Tel: (0242) 30030/37373.



Tandem terminal

TANDEM Computers has announced its own ergonomic terminal which forms part of its NonStop transaction processing systems. The Tandem 6530 is designed to be friendly and easy to use, with fast response time.

Tandem Computers Ltd (CW), Peel House, 32/34 Church Road, Northolt, Middx. Tel: 01-841 7381.

Bit printer price down

A BIT image printer is now available for the same price as a text printer, claims its manufacturer Epson.

The MX-80P/T Type 2 dot matrix printer (seen above) operates bidirectionally at 80 cps, and features a full 96-character Ascii set with descenders. A Centronics-style 8-bit parallel interface is standard, with an option on RS 232C or IEEE 488 interfaces.

The price of the MX-80P/T Type has been reduced to less than £400.

Epson UK Ltd, (CW), Dorland House, 388 High Street, Wembley, Middlesex HA9 6UH. Tel: 01-900 0466.

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There are three models in the series which is designed to cover a wide spectrum of applications and disciplines. Here are some:

- Access Switching Systems
- Time Sharing Bureaux
- Telex Compatible Systems
- Forms Mode Data Entry
- Data Entry/Information Retrieval
- Text Preparation Systems
- Protocol Communications

and there are many more.

For the user with small systems or intelligent terminal requirements there is System 2000 which combines a 'super smart' DELTA 2300 display terminal, a powerful micro computer with integral micro drive and a versatile printer. To the well matched set of hardware we have added DELTA's own File Management System (FMS) which provides the key to small system efficiency by enabling file manipulation on a record-by-record basis in block mode and CP/M business computing application can be handled with ease.

Whether you are an end user, a system designer or an OEM, the DELTA 2000 Series has something for you.

Do you want to know more? Call DELTA today. Or see us at Peripherals '82 exhibition, West Centre Hotel, March 31st to April 2nd.

Delta Data Systems Ltd.

Delta Data Systems Ltd, 100, West Centre Hotel, March 31st to April 2nd.

Microfiche destroyer

A DESKTOP microfiche destroyer using the thermofusion destruction process is available from Volumatic of Coventry.

Aimed at senior personnel in commerce, industry, government and research establishments, advertising, banks and private security organisations, the device enables the individual to destroy top security and sensitive information rapidly in the privacy of his own office.

Compact in size — measuring 24 cm high by 18 cm wide and 19 cm long and weighing 1,700 grams — the unit is less bulky and less expensive than any alternative

system available in the UK, say the makers.

Thermofusion ensures total destruction of microfiche automatically in minutes. There is no exhaust, smoke or toxic residue.

To use the device, the microfiche is inserted into a roll which is in turn itself placed in the destructor unit.

To operate the unit it is plugged into the nearest 220/240 volt electrical supply.

The microfiche destroyer costs £250. Volumatic Limited (CW), Taurus House, Kingfield Road, Coventry CV6 5AS. Tel: 0203 84217.

Single-board disc controller

THR Western Peripherals DG-251 Universal Storage Module Disc Controller is designed for use with DEC LSI-11 computers.

The single-board 'DG-251' accommodates one or two of the large capacity disc drives in the range of 40 to 600 megabytes each. When used with the CDC 9762 80-megabyte drive, the DG-251 emulates and is media compatible with the DEC RM02 systems, running RSX-11M and RSTS without patches, says Wesper.

The controller has separate registers for each drive, allowing for emulation of overlapping seeks while operation continues on another drive. Each drive port has a drive set-up switch that allows

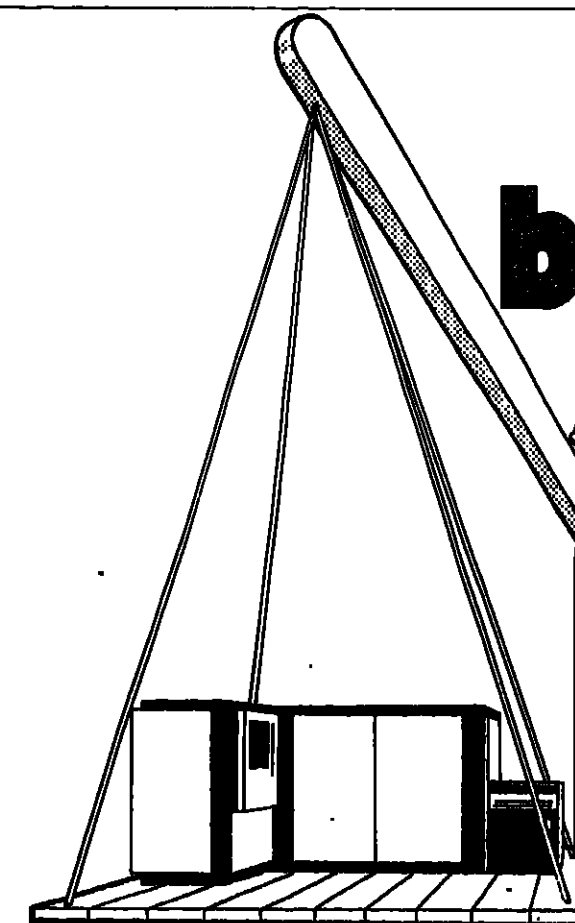
intermixing of drive sizes on the same controller.

The DG-251 is designed to mount directly into any Quad Q-bus slot. Data transfer is throttled automatically depending upon the BDMR demand of other Q-bus devices. The three sector data buffer eases bus priority problems which allows positioning almost anywhere on the bus without fear of data late errors, Wesper claims.

Error correction coding and decoding is a feature of the controller architecture. Optional RP06 emulation and expanded and contracted RM02 for integration of CMD drives is available.

Wesper International UK (CW), 1st Floor, The Parade, Frimley, Camberley, Surrey GU16 5HJ. Tel: (0276) 20934.

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PERIPHERALS

This three-page feature previews the Peripherals 82 exhibition . . . On this page David Casey assesses the market

Goal is total compatibility at the lowest possible price

ENCOMPASSING products as diverse as visual display units and mass data storage devices, the British peripherals market appears to the casual observer to lack a coherent identity. Suppliers maintain that there is no single market for peripheral devices, as a supplier of Winchester drives poses little threat of competition to a manufacturer of acoustic couplers.

The observation may have been true in the past, but these complementary product groupings represent divergent technologies in a convergent marketplace.

The recent movement towards integrated business systems and office automation is proving the critical factor in peripherals activity. Advances in technology are affecting the peripherals market most dramatically in the area of disc storage. Distributed data processing has been shifting the emphasis of computer systems from increased power in the processor, to a more cost-effective method of data storage.

While capital cost and data capacity are key factors in the development of storage systems, the aim for reliability to match that of the processor is now the primary target of peripheral manufacturers. Winchester discs, as sealed units, are able to accept a more hostile environment than conventional hard discs.

A major growth area in the peripheral market is the mini-Winchester - a 5¼-inch sealed unit.

Geoff Seabrook, a program manager with Memorex, admits that his company was in that particular market too early. "We were competing with Control Data from the start, but the market was not ready for the product. We are now moving into the 5¼-inch Win-

chester market but it appears that the lead has already been snatched from us by Seagate and Tandon."

It is significant that the Memorex mini product is being manufactured during 1982 in Japan - the source of many advances in storage disc systems.

At the other extreme (systems with a capacity of 300 megabytes or more) Japanese suppliers will be no less intrusive in Europe. By the end of 1983, Fujitsu, Hitachi and Nippon Peripherals will account for the majority of high-capacity units imported from the Far East, with drives compatible with corresponding IBM systems.

Demand for mass storage discs needed to support expanding central databases is stimulating the market for discs with capacities in excess of one gigabyte (1,000 Mbytes). Memorex is heavily involved in this sector and reports a 45% annual growth rate in the installed capacity of large discs.

In the United States, IBM was quoting a similar figure until the beginning of the year, when its revised estimates showed that capacity could now be rising by 60%.

These broad estimates do not represent true market potential, however, but production volumes which are consistently below the demand.

During the 1970s several potential competitors to disc storage ap-

peared on the market but have so far failed to erode its position. The bubble memory and charge-coupled device technology, for example, are not replacing disc systems.

Seabrook is confident that in one form or another, rotating disc technology will remain the principal storage method for the remainder of the decade. "Laser discs will certainly have an impact on the market, but do not represent a significantly different technology from the magnetic oxide device. The hardware needed to support laser storage is only marginally more complex."

The convergence of traditional data processing with word processing, database management and local area networks will provide a major marketing platform for peripheral suppliers during the next two years. While much of the interest will focus on processors and mass storage units for local area network systems, a secondary market will develop in data capture terminals and communications hardware.

Roger Cockran, product manager at Hamilton Rentals, outlined his view of these developments. "Salesmen will be importing data in the field on a portable terminal such as the Hewlett-Packard HP 745. When they return home, the device can be connected to an acoustic coupler to the company's

system where information can be routed to the appropriate workstations."

Cockran sees the ideal local network as one which is independent of any single manufacturer's peripherals. "It appears that the most flexible approach is to have processors controlling access to a system as an integral part of the network. Peripheral devices would link to these nodes through standard RS232 interfaces - a perfectly adequate standard."

He maintains that this would have two advantages. "If the processor is freed from the chore of monitoring the line to check the

pass of the head lays down part of an image; subsequent passes with the head shifted fractionally improve quality but at the expense of throughput."

Richard Kendall, sales manager of Real Time Developments, which markets the Sanders range of needle printers, explained the popularity of such devices. "They represent a combination of cost and convenience. In a single unit, the user is acquiring a matrix printer for the run-of-the-mill jobs and a printer which is capable of producing low-level typesetting."

Despite the cost of such a hybrid printer - at least 25% more than a Qume or a Diablo daisywheel - Kendall sees a rapid growth in this sector of the market. "There are already several specialised Apple installations for the printer; the applications demand a machine which can offer a range of character sets and can cope with several languages."

Compatibility has proved to be the major obstacle to the acceptance of Sanders equipment in general office applications: the device is currently available only with Centronics parallel and RS232 serial interfaces. Kendall believes that the introduction of

Qume and Diablo interfaces will improve its position.

In the visual display sector, compatibility is not less important an issue. De facto standards emerge which suppliers may choose to reject at the risk of being isolated from the mainstream market.

Roger Cockran of Hamilton is critical of DEC's involvement on graphics terminals, for example. "The problem is that DEC has chosen not to make its graphics screen compatible with the Tektronix 4010 standard. A great deal of software has been written around this system, with the sharp movement towards graphics terminals in specialist commercial applications."

But Digital Equipment, like IBM, has established itself as a standard in the non-graphics sector. Given the size of the market for DEC peripherals in the UK, it was inevitable that there would be several suppliers of DEC-lookalike equipment. As major distributors of DEC computers, Hamilton is aware of the trends in this area.

"Cost, and ease of upgrading are the two main factors," Cockran observed. "We have opted for the C.Itoh range of VT100-compatible terminals, on the grounds that even the most basic models have facilities which are not available on the standard DEC VT100."

This approach is indicative of trends in the UK market as a whole: whatever technologies underlie a product's development, total compatibility at minimum cost must be the manufacturer's objective.

A list of exhibitors and their stand numbers is on page 22.

address of every packet passing through, it can function more efficiently. But more important is the greatly increased range of options for linking peripheral units together through such a network."

Networking will allow low-cost workstations to share comparatively expensive resources, but the trend must continue towards "economy" peripherals. Purchasers of Apples and Pcs, for example, have stimulated a market for cheap but efficient printers. Qume and Diablo daisywheel printers, which have succeeded the golf-ball printer in word processing applications are at least as expensive as the microcomputer in many configurations. In order to keep the total price of a system below £2,500, a lower-cost letter quality printer is required and the Japanese Ricoh daisywheel is finding a ready market at a price of between £850 and £1,000.

Word processing and traditional DP applications make very different demands on output devices so that purchasers have been prepared to buy a high-quality printer for text and a higher throughput matrix printer for data.

Provided that the speed of a line printer is not required, compromise may be found in the form of a multi-pass needle matrix. Each



More and more data is being input at source on portable terminals.

PERIPHERALS - 2

Tracy Ebbetts takes a look at some of the VDUs, printers, tape punches, and disc drives that will feature at the show

Show 'purpose-built' to keep suppliers in the public eye

COMPUTER companies are faced with a bewildering choice of exhibitions on their calendars. Compec covers practically the entire market, but manufacturers also want an exhibition to address their particular market segments. Peripherals 82 is one such exhibition.

The show is organised by the Peripheral Suppliers Association (PSA) and sponsored by Computer Weekly's sister journal, Systems International. The PSA is a free trade association whose primary purpose is to represent the interests of independent computer peripheral suppliers trading in the UK. There are currently 32 association members, many of which will be represented at Peripherals '82.

Control Data, a PSA member, feels that the show has been purpose-built for companies like itself. It has a small stand and will concentrate on its range of OEM peripherals. "We had to test the

modem attachment it can be displayed on a VDU.

Gresham Lion claims it was very successful at Microsystems '82 and is hoping for a similar response from the crowds at Peripherals. On its stand it will display the LYMB 6,000 colour VDU with a graphics option.

Another VDU exhibitor is Mellordata. It will show a range of video terminals for IBM, DEC and Data General users. Prices start at £554 for an 80 column screen format terminal with two full pages of buffer information, and go up to £3,500 for terminals with high resolution colour graphics.

Showing for the first time in this country is a new addition to the range, the 3270-S terminal, a low priced plug-compatible alternative to the IBM 3275 and 3276 synchronous terminals. Mellordata will also exhibit a range of touch sensitive terminals operated by touching the screen, thereby dispensing with conventional keyboards.



temperature of the water once," says OEM marketing services manager Dave Bennett, "but if the last two years are anything to go by the show should be extremely successful."

Control Data is an old hand at exhibitions and knows how to keep its costs down: "It is not a mammoth cost exercise as our literature is usable at all shows and we only have to hire the stand," says Bennett.

Also showing OEM equipment is Siemens. Derek Jackson said his company is using the show to establish itself as a forerunner in inkjet mechanisms. Among its exhibits will be floppy disc drives, printer modules, the P780H printer for airline ticket format, continuous stationery and the P780 printer which uses a drop-on-demand inkjet mechanism.

Data Dynamics manufactures peripherals. It will be showing the complete range of ZIP products, printers and paper tape punches. The DD1303 is a home designed and manufactured dot matrix printer operating at 120 characters per second (cps), costing £998.

Data Dynamics' main exhibit is the ZIP 585 paper tape punch, capable of reading and punching five and eight level tapes. It can read tape which may then be mounted on a printer or with a

Pragma has a dot matrix line printer, the Printonix MVP2 featuring three modes of operation. It operates at 80 lines per minute (lpm) using a 13 x 9 matrix to produce word processing quality print and graphics at a speed of 150 lpm or a 9 x 7 matrix for compressed print. It is targeted at the small systems market.

Features include alphanumeric printing, graphics, bar codes, OCR labels and business forms. The MVP2 is Centronics and Dataproducts compatible, with RS232 and a number of IBM, Burroughs and ICL interfaces optionally available.

Other products include the Printonix range of dot matrix printers, covering 150 to 600 lpm, the Daisy M50 daisywheel printer, a wide range of visual display units from Visual Technology and a colour printer which uses a three colour ribbon on standard fanfold paper.

Real Time Developments has a new model printer from Sanders Technology, with 130 different fonts enabling users to print char-

acters from different languages, mathematical character sets and arabic characters. There are six sockets accessible to the user and each font pack contains two different character sets.

Other features include a draft dot matrix button for quick copies and the speed ranges from 39 characters per second to 624 characters per second. The company is using the show to exhibit this machine for the first time in working order and aims to become known as the distributor for it. "Any London venue draws in the crowds and is



TUFFS... low-cost graphics.

attractive to us," says Richard Kendall of Real Time Developments.

Data Type, a South Wales based computer terminal and systems manufacturer, is giving a new product line its public debut at Peripherals '82. The Autograph range of graphics display terminals are the first to emerge from Data Type as a result of its funding from Citicorp Development capital under its high technology scheme.

The range comprises five graphics display terminals costing from £1,250. Features include 512 x 250 dot matrix resolution, a microprocessor to handle point plotting, vector generation, command decoding and alphanumeric displays. They can be linked to Autograph graphics printers to provide the user with a graphics workstation.

Gerry Tufts, Data Type's managing director and chairman says, "This range gives a new identity to the expanding range of Data Type graphics products. We aim to offer a low-cost route to complex graphics at a fraction of the price of traditional graphics terminals."

Data Recording Equipment will

use Peripherals '82 to exhibit the latest addition to its 8000 Series printers, the 8925, and to demonstrate for the first time a number of new features and options now available for the series.

New features include a front feed device for banking, hotel, and point of sale applications, and a cut sheet feeder which can handle up to 200 sheets of paper for high volume word processing applications. It will also demonstrate a new bi-directional paper feed for graphics.

Many exhibitors this year feel that Peripherals '82 is an effective way of keeping products in the public eye between the larger shows.

Steve Deen of Trend Communications says, "Compec is the big show for us and we were successful there last year. Peripherals '82 is the only show in the South East between Compec shows where we can keep the interest in our products alive."

This year Trend will exhibit its recently announced Trend Printer 880. Printing at the rate of 100 cps bi-directionally, the 880 is available in Keyboard Send Receive (KSR) and Receive Only (RO) versions.

Four character sets are provided as standard and it can print expanded and compressed characters on various column widths at five, 10 and 20 characters per inch with selectable line spacing to three, six, eight, or 12 lines per inch.



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North Yorkshire ROOM TO GROW



Mellordata will show the touch sensitive terminal that proved so valuable at Compec.

The latest in Winchester disc technology - a removable cartridge in the Lynx DP-100 from X-Data.

PERIPHERALS - 3

Jon Whiteley provides a shopper's guide to leading edge technology and products and more established offerings

Basic choice is between higher performance and reliability

WHEN one is in the market to buy peripherals for a computer it is best to start by deciding whether to go for the latest, leading edge technology product or for a device which embodies more familiar or proven technology.

To enjoy the benefits of either type of device means sacrifices.

Leading edge products usually have high performance specifications as an attraction, but one of the sacrifices is often in the area of reliability since production quality can be uncertain when the product is fresh from the development laboratory.

Conversely, a peripheral product which has been produced in volume for a year or so may be quite reliable and easy to obtain in large quantities but it may not perform to match expectations. For those building a system, an outdated peripheral may bring down the performance of the entire system to its level.

This, then, is the basic decision to be made before looking more closely at the offerings of different manufacturers.

Computer peripherals fall into three main categories: input devices, output devices, and storage devices.

The most important input device is the VDU, which has replaced the teletype.

VDUs

Despite the fact that the VDU market is experiencing a vigorous growth which outstrips that of the computer industry as a whole, the technology itself by contrast shows a pattern of gradual evolution.

The display is similar to that found in any television, and by the standards of the rest of the computer industry, is an ancient device. But the cathode ray tube is still with us because no serious challenger has emerged. Plasma and liquid crystal displays are still found only in specialised applications and it seems unlikely that they or any other type of display will threaten the supremacy of the CRT in the next four or five years.

The VDU keyboard is continually being refined, but there have been no startling changes in the last few years. If the CRT and the keyboard have only changed slightly then there are other more important and noticeable changes about VDUs.

The first of these is in the physical appearance of the device. The CRT is now often housed in its own cabinet which allows the screen to be tilted and swivelled. This casing also contains most of the electronics for the VDU. The keyboard is connected to it by a flexible cable.

The impetus to make terminals easier for operators to use came initially from labour organisations in Scandinavia. Local terminal manufacturers responded and then found there was a market in other parts of Europe for the same kind of VDU.

Gradually, the realisation that higher productivity from a computer system could in certain cases be directly attributable to an ergonomically designed terminal has led to a widespread acceptance in Europe of this design principle.

Other aspects of ergonomic design include the choice of green or amber phosphors for the CRT and fine adjustments on the intensity of the display to match its internal contrast to the operator's visual surroundings.

Enjoying a boom, however, are serial dot matrix printers and daisywheel printers. The reason for the growth in sales of matrix printers is their decreasing size and price combined with very acceptable levels of reliability. This has been achieved by applying mass production techniques.

It should, therefore, come as no surprise to learn that the Japanese have come to completely dominate the very low end of the dot matrix printer market.

The demand initially came from microcomputer users who wanted a printer that cost less than their processor units. The £200 price barrier was broken last year by a small single needle matrix printer from Keikosha and prices should fall further.

Dot matrix printers produce readable printout at low cost but the quality of the printing on the lowest-cost models is unsuitable for correspondence. It was to this problem that a number of the established matrix printer manufacturers addressed themselves when they realised that they were being threatened from below by the low-cost matrix printer makers and from above by the makers of high-quality daisywheel printers.

This led to the development of dual mode matrix printers which can print rapidly (what is sometimes referred to as DP quality output) or print solid characters suitable for word processing applications.

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You will preferably have a good educational back-
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low or real-time high level languages on mini or micro-
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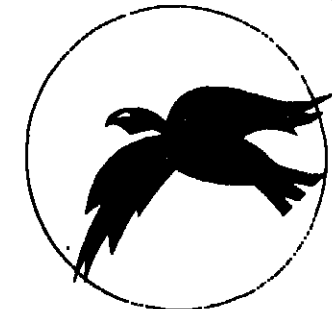
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An International Group of Insurance Companies is undergoing an extensive redesign of its systems. To help with this development they seek an energetic Senior Systems Analyst who will be working in a COBOL environment using IBM hardware together with C.I.C.S. and DLI Database. The preferred applicant will have had a formal background with exposure to this software and hopefully some relevant applications experience - Marine Insurance would be particularly advantageous. Vacancies also exist at a less senior level within the group for people with two or more years' COBOL and some exposure to C.I.C.S. These are excellent opportunities within a multi-national company offering first class benefits in addition to generous basic salaries. REF R 3887.

CITY

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Applications are invited from candidates with a minimum of one year's COBOL experience, that are keen to progress their career in a fast moving environment developing interesting finance systems for clients.

ANALYST PROGRAMMERS

As an Analyst/Programmer you will be responsible for program design, writing specifications and extensive user liaison at client sites. A minimum of two years' COBOL programming experience is required, with some analysis incorporated during that time.

PROJECT LEADERS

As a Project Leader you will be heading a group of programmers and analysts, liaising with customers and designing financial systems. Applicants must have at least six years' DP experience.

... Central London ...

... Employees will be based in the City Office but must be prepared to travel to client sites in and around London and occasional international travel may be required. To discuss

these opportunities in further detail telephone 01-353 0981 quoting reference C1/2503.

Excellent career

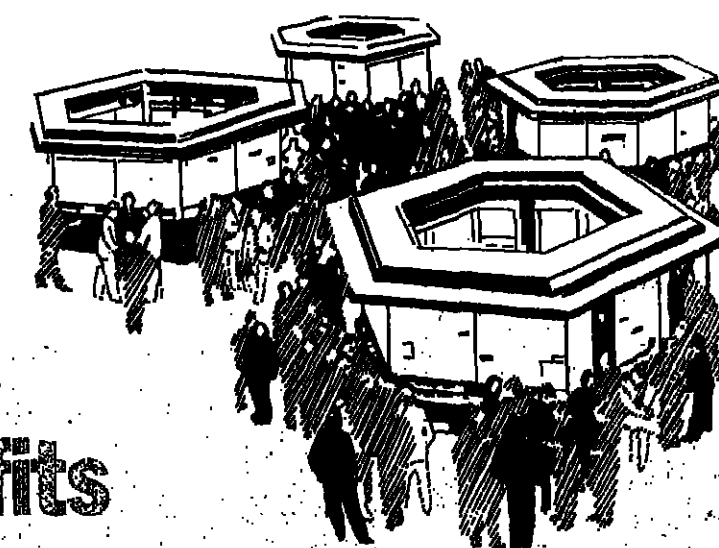
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You'll be into every type of industry and business... commercial data processing, on-line file inquiry, communications, instrumentation and control and so on. You will also be involved directly with customer presentations and advice on their systems utilisation.

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Data General Systems range from microprocessors to the Eclipse and MV Series 32 bit super minis - our entry into the 32 bit market place - all supported by a vast array of upwards compatible systems software - ranging from small real time executives to multifunction operating systems - and including a list of programming languages unrivalled on mini-computer systems.

This is an opportunity and a challenge which is not available to many people in the computer industry.

Communications Specialist

To provide pre and post sales technical consultancy in computer hardware and software. You will have an extensive knowledge of

telecommunication products across the industry and preferably experience of networking using mini and micro hardware.

This post is based in our Technical Support Group in Hounslow.

Systems Engineers

To provide both a pre and post sales technical consultancy on Data General hardware and software products to major Data General customers.

You must have in-depth experience of software from either an advanced application or system programming background, the personality to maintain good relationships with customers at all levels and the ability to provide technical solutions to their business needs.

These posts are based in our Major Accounts Branch in Manchester.

Your experience should match the above and preferably you should have been or are currently employed by a manufacturer.

This is an ideal opportunity to join a team dedicated to the implementation of "leading-edge" technology.

The next step

Write to or telephone Janet Field
Data General Limited, Hounslow House, 724-734 London Road, Hounslow, Middlesex.
Tel: 01-572 7455

Data General

Senior Analyst/Programmers Real-Time Systems (Bracknell, Berkshire)

The Person

You should have a good degree in Computer Science and a minimum of two years' experience of real-time systems on mini-computers. PASCAL, COBOL, ALGOL or ASSEMBLER experience is desirable and experience of program specification, design and systems analysis would be a definite advantage.

The Job

You will design, implement and document real-time software to run on 16 bit microprocessor based autonomous and networked computer systems. The processor is the Motorola 68000 device and development work will be on a PDP 11/44 and the Motorola development system. The systems will perform machine control and test and life handling operations on a scale normally associated with large multiple mini-computer installations. Systems will communicate via high speed local area network.

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Protel has been established to exploit the field of computer technology primarily in support of the TV broadcast industry. The company can be expected to expand rapidly offering a real challenge and excellent career opportunities for those there at the start.

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A competitive salary commensurate with experience is offered coupled to regular reviews. The company offers all the usual benefits including profit share, private medical insurance, pension and flexible working hours. Coupled to this is the attraction of working in a small company environment and the interest which stems from continually expanding horizons.

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DEPARTMENT OF ELECTRONIC & ELECTRICAL ENGINEERING

PROGRAMMER - COBOL DATABASE

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University of Birmingham

Centre for Computing and Computer Science

The Centre provides a wide range of local and remote computing facilities to the University. The Centre's mainframe systems include an ICL 1906A and a DEC 2080 interactive system for both teaching and research. These services are being extended by the development of an internal network which will have links into the Midlands Universities Computing Network. The Centre is currently in the process of selecting a new system to replace the 1906A in the first half of 1983. Applications invited from graduates for post of:

INFORMATION OFFICER User Services Group

Responsibilities include provision of information and educational services to staff and students. Candidates with experience in Database or Text Processing techniques will have an advantage. Salary will be on Computer Officer scale £5,285-£12,860 plus superannuation. It is expected that an appointment will be made at level of Senior Computer Officer (£10,180-£12,860). Further particulars from Assistant Registrar (Sci & Eng), PO Box 363, Birmingham B15 2TT to whom applications (three copies) including full curriculum vitae and naming three referees should be sent by Friday, 23 April, 1982.

Please quote ref: CW28.

The Computer Board and Research Councils Joint Network Team

Applications are invited to join a specialist team working on the provision of local and wide-area data communications services in the University/Research Council Community. The team's activities include:

- the specification of Open Systems Interconnection standards for use in the academic community
- projects to implement the agreed standard protocols on specific machine ranges and to develop common networking components
- planning for the unification of wide-area network services throughout the community
- collaborating with computer centres in formulating plans for on- and off-site communications and on the communications aspects of new procurements.

Applicants should have appropriate professional/academic qualifications and familiarity with computing in a university environment. Experience of modern data communications techniques, networking protocols and computer operating systems is required.

The posts involve work on a variety of projects and some travel. Appointments will be made within the following grades:

Senior Scientific Officer £8,200-£10,322

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with salaries dependant on age and experience.

The team is based at the Rutherford Appleton Laboratory of the Science and Engineering Research Council.

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Applicants should contact the Recruitment Office, Rutherford Appleton Laboratory, Chilton, Didcot, OXON. OX11 0QX.

Tel: Abingdon (0235) 21900 Ext. 510,

quoting reference VN 034.

Closing date for applications: 15th April 1982.

(8283)



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Contact Tim Bridges

H/W Designer Micros

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Contact Terry Harvey

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If you have Assembler-level programming experience gained in mini/micro computer technical applications environment, you will be attracted by opportunities with this client. They have an established international reputation in the area of computer technology applied to printing and graphic arts. The company now seek an additional programmer to join an existing development group. Relocation assistance given.

Contact Terry Harvey

IBM/GSD RPG Modelling

London to £10K + car

Experienced System 34 or 38 RPG programmers are required to join a highly successful company marketing a management information and financial modelling package. Marketing oriented people will be particularly suited to these positions as they will be expected to function in a support role with the opportunity to develop client contact skills.

Contact Tim Bridges

Marketing Support

Berks. £10K-£13K + car

A rapidly expanding company providing systems software packages to IBM mainframe users is seeking a first class technical support person. You will have a thorough knowledge of OS/DOS environments and have worked in a sales support or systems programming capacity. You must be capable of working in central support or pre and post sales support.

Contact Tim Bridges

DEC Scientific

Beds. to £11,000

The working environment, the company and its products all rate A.1. with this client. Experienced RSXII/Macrol programmers will enjoy working on applications and systems for computer controlled analysis and measuring instruments. There are opportunities in special systems and standard product development. A physics degree would be useful. Some international travel.

Contact Terry Harvey

IBM 4300 Project Mgr.

Slough c. £12,000

An American publishing company is seeking a Project Manager to handle the installation of a subscription fulfilment system on their new 4331 to be installed later this year. A thorough knowledge of COBOL, CICS and DL/I is essential. Candidates should be prepared for occasional trips to Europe, America and Japan during company familiarisation and training.

Contact Tim Bridges

Comms. S/W Manager

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Contact Terry Harvey

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GEC Telecommunications Ltd is in the vanguard of development in the field supplying sophisticated equipment to telecommunications authorities, business and military users across the globe.

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The people we're looking for will be graduates with at least three years proven success in the development of medium or large systems using a high level language. A willingness to take responsibility is essential, since you could well find yourself leading a team.

Salaries will be negotiable in the range £8-10.5K. Plus other big-company benefits.

Interested? Then complete the coupon and return to Mr. Z. K. Flizak, GEC Telecommunications Ltd., P.O. Box 53, Coventry CV3 1HJ.

Name _____

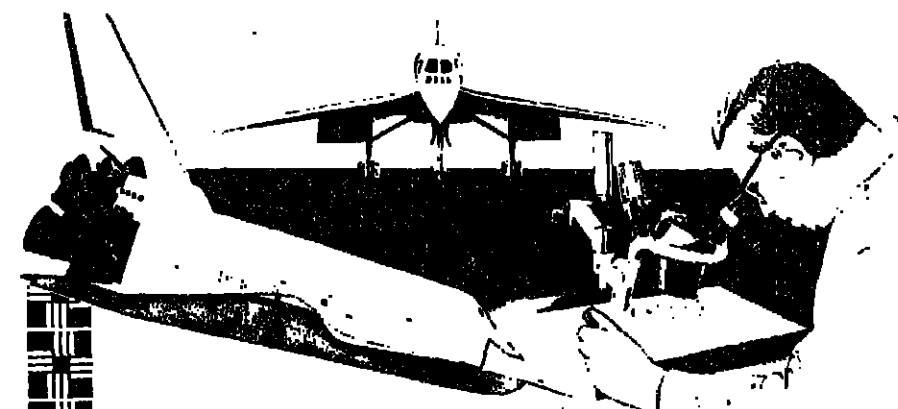
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Here at Modular Computer Services, we pride ourselves on the quality of service we offer to our customers.

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We sell the computer systems we manufacture in Wokingham, into the scientific and technical market places, specialising in Industrial Process Control and Communications, and an expansion of our customer base has created a need for the following key personnel:

Resident Engineer

Based at a major customer site in London, you will be responsible for the smooth running of that customer's equipment. Duties will include planning and performing remedial and preventive maintenance, new installations and the analysis of system and product performance. Suitable candidates should have at least three years field experience working with computer systems on chip level, preferably with some time spent as a resident engineer.

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We are looking for an individual who will be based at our International H.Q. in Wokingham, and will provide the field service actively with a high level of support in solving systems level problems. Other responsibilities will include contribution towards customer training courses, and the evaluation of our software products. A suitable background would be a similar role with knowledge of both ASSEMBLER and PASCAL, COBOL or other block structured languages.

Company benefits for these positions are excellent and include competitive salaries, company car, a non-contributory pension scheme, life insurance and free BUPA.

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PROGRAMMER ANALYSTS

SURREY IBM SYSTEM 34/38 TO £10,500

Datascene are looking for Programmers wishing to develop their analytical skills. Opportunities exist at two locations in North Surrey. Both of these companies are about to install system 38 equipment and after conversion are embarking on development projects fully utilising the facilities offered by the System 38. Ideally you will have upwards of 18 months' experience in either RPG II or RPG III. In return for your skills both companies are offering a high career development curve. For further details ring Datascene quoting REF: M.

RPG II RPG III

LONDON/H. COUNTIES IBM 34-38 £7,500-£14,000

In London and the Home Counties alone there are upwards of 45 requirements for Programmers, Programmer/Analysts and experienced Analyst/Programmers. All these positions revolve around systems 34 or 38 hardware. Companies include Banking, Petrochemical, Insurance, Stockbroking, Commodity dealing and manufacturing. If your present position seems a little "average" and your ability and wallet require replenishing then give Datascene a call because if you do it's quite likely your career will take an upward turn. M.GEN 1

PROGRAMMER/ANALYSTS

LONDON/H. COUNTIES BASIC, +, +2 AND AIMS £8/12,000

We are in contact with several companies in London and Home Counties who have vacancies covering Programmer to Analyst/Programmer positions with two years' plus experience in Basic, Basic +, +2 and Aims on PDP 11 series computers. These installations cover a varying cross-section of business types and include Banks, Brokers and commercial companies. The successful candidates can expect extremely good salaries and in most cases, very generous company packages. R & M GEN. 1

PROGRAMMER/ANALYSTS

LONDON/H. COUNTIES MAINFRAME OR MINI COBOL £8/11,000

We have several clients in London and environs requiring Programmers and Programmer Analysts to augment their existing staff. These positions cover a broad spectrum of Mini and Mainframe installations and include professional and commercial/financial application areas. Experience requested varies from two years upwards and in some cases requires a career pattern through programming to analysis. Good company packages are offered and in some cases relocation allowances. R & M GEN 2

ANALYST/PROGRAMMERS

MIDDLESEX COBOL/BASIC TO £12,000

Opportunities have arisen within an extremely successful software house based in Wembley for a number of analyst/programmers to supplement their existing teams. The candidates required will currently hold senior Programmer positions with some analysis responsibility or be Analyst Programmers with at least two years' analysis experience in a commercial/financial environment, preferably working with Prime, Dec or Hewlett Packard equipment. Good career prospects and company package can be expected. RMS919

IBM COBOL or PL1 PROGRAMMERS

SURREY £10,000 + MORTGAGE

This large International company seeks to recruit several Programmers as part of their expansion plans. Applicants should have a minimum of 18 months' IBM COBOL or PL1 preferably with DATABASE experience although training will be offered. The company retains IBM 4300 machines and can offer applicants a wide variety of projects. Career progression is envisaged into Analysis. Company gives an excellent Benefit Package including Subsidised Mortgage. REF: S.6260

IBM ASSEMBLER PROGRAMMERS

LONDON/H. COUNTIES TO £14,000

We have at present been retained on behalf of many clients throughout London and the Home Counties to recruit IBM Assembler Programmers with a minimum of 18 months' experience. If you are looking for applications or Systems Programming work we can help you. Several of these positions offer excellent scope for development including training on CICS and DATABASE. Some companies offer training in Systems Programming with minimum of 2 years' commercial Assembler experience. Whatever your level of experience phone now for further details. REF: S/GEN 1

IBM COBOL CICS PROGRAMMERS

CITY TO £11,000 + MORTGAGE

We have been retained by a prestigious International Bank to recruit two Programmers or Analyst Programmers, to work on a variety of projects including Foreign Exchange. Candidates should be able to demonstrate a good understanding of CICS, a minimum of 6 months' experience would be sufficient. These positions offer a very good opportunity to work on large development projects. TRAINING IN DATABASE and an excellent company benefit package. If you have at least one year's Cobol ring now for further details. REF: S.6213

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4YW. To whom applications (three

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(8975)

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DATA PROCESSING

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Applications are invited for the

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responsible directly to the

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will be experienced in systems

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(8989)

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Salary will be around £14,000 - possibly more.

Applications should be made in writing to:

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Staff Officer,

Binnie & Partners

Artillery House,

Artillery Row, London SW1P 1RX
or telephone 01-222 7755 for an application form.

PROGRAMMERS

Exceptional growth has established Photo Trade Processing Limited, a major autonomous division of the Dixons Photographic Group, as one of Europe's largest film processors.

We are presently seeking Programmers to join our expanding D.P. Department.

The successful candidates will have a minimum of 2 years' experience, of which at least one year will have been spent using Basic + or Basic +II. We should also be interested in talking to programmers with MUMPS experience, who would welcome the opportunity to advance their career using Basic +II under RSTS/E. Applications are varied and require people who can handle all aspects of commercial applications. Some Analysis experience would be an added advantage.

We can offer an attractive salary which would be tailored to the successful candidate's previous experience.

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Mrs. Val Angier, Personnel Officer
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(8941)

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Applicants must have a minimum of 7 years' experience including on-line systems, programming, systems design and operations supervision. A good working knowledge of COBOL is essential and experience of NCR N series and V series along with NEAT/3 machines would be an advantage.

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INTERNATIONAL

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Must have at least three years' RPG II experience in a financial environment with a knowledge of S/3 or S/34. You must be able to produce programme specifications, set and adhere to deadlines and take responsibility for all programming aspects of a project, including supervision of two or three other programmers. Good oral and written skills will also be required.

PROGRAMMERS

To £9,000 + review after 6 months

A minimum of 18 months' RPG II programming experience in a financial environment. Preference will be given to programmers with IBM S/34 experience, although training in IBM S/34 operation may be given to the right applicant.

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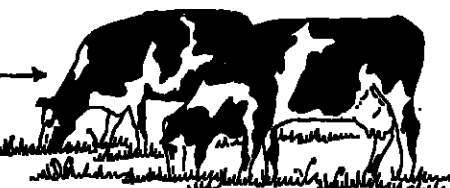
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IBM COBOL
At the end of 1981 and the beginning of 1982 we have identified numerous and various requirements in the IBM sector. All the sites are mainly Cobol orientated but any PL1 knowledge would be an advantage. One C. London user has recently installed two IBM 4341 machines and now wishes to expand their development team substantially. The posts range from Programmers, with 1 year's Cobol, to Analyst/Programmers, with around 3 years' experience. Preference will be given to applicants with some knowledge of CICS or similar real time system although training will be given where necessary. This is a typical C. London requirement but there are many other sites recruiting in other parts of London and the Home Counties.

PROGRAMMERS IBM ASSEMBLER to £9,000

2 Central London financial installations are seeking to recruit experienced IBM Assembler Programmers to complement their existing teams. Applicants should have a minimum of 1 year's experience gained in any commercial environment. Knowledge of CICS would be useful however training will be provided where necessary. Both companies offer secure positions with good career prospects and a wide range of benefits including mortgage subsidy.

JNR PROGRAMMER RPG11 £7,000

Subsidiary of a multi-national corporation require 2 Junior Programmers with at least 6 months' commercial RPG11. Excellent career path with rapid progression through to analysis. This is a good opportunity for a skilled programmer to move into a small and professional team.

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SENIOR PROGRAMMER HONEYWELL L88 £9,000

Two large sites situated North and South London require 2-3 years' Cobol experienced gained preferably within a L88 environment utilising either IDS I or II database systems. A desire to progress through to analysis is desirable as these clients expect current levels of expansion to continue through the next decade.

PROGRAMMERS HP COBOL to £11,500

Senior and Junior Programmers are required by sites in C. London and the Home Counties. Applicants should have 1 to 4 years' experience preferably gained in an H.P. environment. These positions are with progressive companies offering excellent career prospects and a variety of perks including mortgage subsidy, travel allowance, etc.

PROGRAMMER ICL COBOL c £9,000

Expanding City-based installation seeks a Programmer with around 2 years' Cobol experience gained on the ICL 2800 range. The preferred applicant will have both on-line and database experience with a good commercial background. The company is shortly installing new hardware and can offer excellent career prospects and perks including a substantial bonus scheme.

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At least 2 years' Basic+2 with some Basic+2 is required by a large City user. As well as programming ability applicants must be able to manage junior staff. All programming staff are encouraged to gain early involvement with analysis since there are no analyst/programmers.

ANALYST/PROGRAMMERS DATA GENERAL c £10,500

A large systems house require more experienced analysts and programmers due to an expansion of its services. The credentials for these positions are a minimum of 3 years in computing with specific experience in at least two of the following languages: PL/1, BASIC, COBOL, ASSEMBLER, together with knowledge of either DATA GENERAL, VAX, TANDEM or IBM hardware. A wide range of systems will ensure challenging career prospects.

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SNR. OPERATIONS CONTROLLER IBM DOS/VSE c £8,000

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Application should be made in writing to:

A. E. Cox, UK Sales Manager
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Diamond House
138 South Street
Dorking, Surrey RH4 2EU

Programmer

c. 25,000

London SW1

The Society of Motor Manufacturers and Traders is a leading trade association concerned with the promotion of the interests of the motor industry and its contribution to the national economy.

There is a developing Systems Department, working on motor industry market research and membership information, with a vacancy on the small team, reporting to the Head of Systems Department.

A Programmer with at least two years' experience is required mainly to work on the PDP 11 Minicomputer. The operating system in use is RSX 11M, the language Basic +2. There will also be some work on IBM 4300, operating system VM, language Cobol. A thorough knowledge of PDP 11 and operating system RSX 11M is essential, a knowledge of IBM 4300 desirable. Experience in the use of at least Basic +4 and Cobol is required.

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Write with full C.V. to Mrs. C. Calnan, Personnel, SMMT Limited, Forbes House, Halkin Street, London SW1X 7DS.

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Applications (quoting post no: 3002088) giving full particulars of age, experience, qualifications etc., together with the names and addresses of two referees should reach the County Planning Officer, Martin Street, Stafford ST16 2LE by 8th April, 1982.

Relationship to any Member or Senior Officer of the County Council must be disclosed.

All applicants are asked to note that it is the County Council's view that it is desirable for their employees to be members of an appropriate Trade Union.

Staffordshire County Council

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If you feel you have the right qualifications and experience please contact Brenda Richards on Holsham (0403) 50445 or write to:

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Electronic Systems
Sigma House
North Heath Lane
Holsham
Sussex BN12 4UZ

SALES AND MARKETING OPPORTUNITIES - 1

Ivan Newman calls for planning, effort and investment to be put into computer sales force training programmes

Sales training must go hand-in-hand with promotion policy

DESPITE the cold economic winds the computer industry is forecast to grow, and if that is to be so, then the salesmen needed to find customers for various products will have to be trained.

The industry can rely on a small number of large companies to provide comprehensive training, with "head-hunters" or "poachers" then furnishing smaller companies with salesmen.

Alternatively the smaller companies can offer training programs to their salesforces. This latter course may be the favoured one, because without the personal development a well-structured training programme brings, the once "head-hunted" salesman could be enticed to move again. Or perhaps a salesman hired from scratch might well be tempted by better opportunities through better training.

However the training is done, the requirement is for a salesman who can sell the product in a workable configuration at the correct price (or margin), with the correct lead times, level of support software - and do this in a professional manner while retaining the customer's respect against competition.

With these things in mind the sales training function becomes most challenging.

because one must establish how to train somebody from scratch, as quickly and efficiently as possible while maintaining the respect of an experienced salesman for the training programme.

Not everyone shares the view that computer sales training is either challenging or worthwhile.

Were a poll to be taken of views on sales training, some replies might be along the lines that attending a sales training course is a pleasant and not too strenuous holiday from daily aggravation.

Perhaps it would be seen as a waste of valuable selling time, or at worst completely irrelevant. The sales trainer, on the other hand, may be viewed as possessing a sinecure or possibly as having been put out to pasture.

All these views might well be justified if sales training

were used without relevance to the actual promotion of the product. Sales training should be made an instrument of sales promotion policy.

Careful planning, effort and investment must also be put into the training. Merely to say that sales training is part of sales promotion policy is not enough - the two must go hand-in-hand.

To illustrate the degree of planning, effort and investment necessary to make a good training programme, take two elements of the salesman's profile:

● To sell the product that can do what is required of it.

● To sell the product in a thoroughly professional manner.

Two different sorts of training exercises must be formulated for these two characteristics - namely,

practical exercises to show equipment/software capability, and selling exercises to allow practice in customer contact.

For practical exercises to be used as tools by the salesman, they must relate directly to likely sales situations. Sales promotion must, therefore, provide profiles of what functions are required by potential customers.

From there the sequence is as follows:

Planning: The overall course objective needs to be split into smaller sub-objectives and individual practical sessions. For example, if the overall objective is to enable the salesman to demonstrate a system comprising modules, features, peripherals and so on, then the demonstrating of the seven items should each be

made an exercise. Course size, product availability, machine utilisation, software and documentation availability all need to be taken into account with sales promotion providing the necessary profile data to illustrate the main target application areas.

Effort: Working on the premise that students will feel motivated if successful, each practical session should be constructed so that the desired end result is achievable by all. The effort is necessary to ensure that each session works by providing full instructions, sample data input (ie, which buttons to press) and sample results together with a clear statement of objectives.

Investment: Few things are more frustrating to a student in a practical session than not getting "hands-on". Successful sales training needs a stable machine installation together with enough standby equipment to allow for malfunctions - in a short training course, time wasted is time lost. For practical work, then, the investment should mainly be in equipment but also in the area of technical support to ensure maximum useful time.

The sales direction required by the company should be stressed with vigour, not just by statements

of policy but by the actual design of the exercise.

The challenge to the computer sales trainer (and of course to the company's need) is to equip the salesman at the time of training and for the future with skills needed to analyse a constantly changing environment in the field.

This challenge is met by combining into a well ordered, structured whole, certain sales training techniques - such as commercially available sales training videotapes - and by the development of presentation and demonstration techniques sessions, sandwich training, accountability at

each stage of the training and by developing some method of evaluating competition.

And, of course, by committing the right level of planning, effort and investment so that when the manager promoting a new or existing product rises to his feet with his plans for the hardware, software, marketing, pricing, commission, support and documentation he has in his portfolio of announcements a complete training package which will develop his salesman's ability to actually sell the product.

The author is sales training manager at Burroughs.



Students should get hands-on experience in a practical session.

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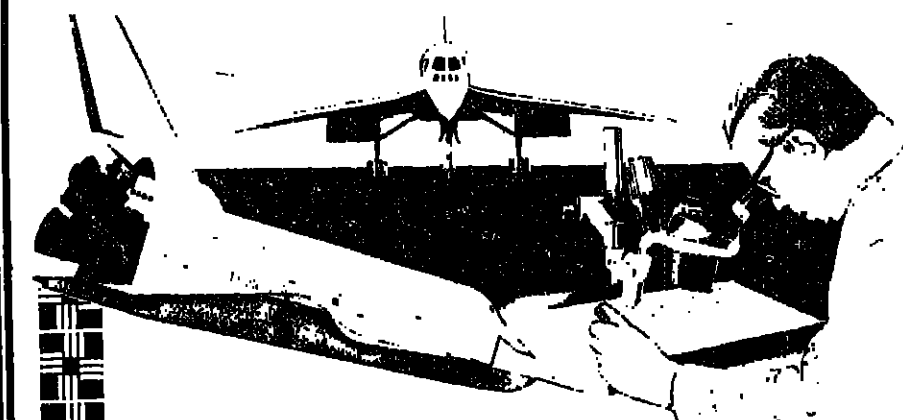
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General Manager
DATA SCIENCES INTERNATIONAL LTD
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Sheepscar Street South
Leeds LS7 1AW
Telephone: 0532 441541

For vacancies in Greater Manchester contact:

G. C. Lewis
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For further details and application form contact: June Hamilton, Comart Ltd., Little End Road, Eaton Socon, Cambs. Phone: 0480 215006.

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The Quadrant
Bilton, Surrey SM2 5AB

Box number replies should be addressed to:

CROSSWORD

Solution to Prize Crossword No 26



COLIN Smith, a programmer with the Department of the Environment in Hastings, won our £10 prize for March. The £5 prize goes to John Harvey, a systems analyst with Rolls-Royce in Derby, and Stanley Abrahams, a senior lecturer at Leeds Polytechnic.

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Informal enquiries to Mr. D. Ross, Computer Manager on Bristol 65555.

For further details and an application form, to be returned by 5 April 1982, please contact the Personnel Office, Bristol Polytechnic, Coldharbour Lane, Fenchurch, Bristol, or ring Bristol 65555. Fax 676 (Applications service on this extension outside office hours).

Please quote Reference Number A/107 in all communications. (8871)

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The quality of management is not strained - Part 2

How incapable bosses are able to survive

LAST week I wrote about the vagaries of the management hierarchy and the implications of the Peter Principle which suggests that the individual inexorably progresses to his or her natural level of incompetence, with the logical conclusion that the only people working effectively are those who are yet to achieve this unfortunate state of personal inadequacy.

Incompetence is a difficult quality to measure unless it is concentrated in a single action or situation. Many inadequate managers are able to survive by virtue of their skill in avoiding involvement in anything that will expose their vulnerability.

They remain aloof and out of reach unless they are sure they can exploit that enormous gap between a little knowledge and total ignorance. Perhaps they become instinctively aware of the wisdom of Abraham Lincoln's words: "It is better to remain silent and appear to be a fool than to open your mouth and remove all doubt."

A classic manifestation of management incompetence is autocracy, for it is a method of controlling people which relies entirely upon one-way communications, non-involvement at the grass roots level and an utter dependence on the absence of any attempt to change the status quo.

Totalitarianism can only survive where no questions prevail - usually because the perpetrator of the system has no satisfactory answers. Autocracy is seen by many victims of the Peter Principle as the only available survival kit. Weller must have had such people in mind when he said "Nothing is impossible for the man who does not have to do it himself."

If, I. Mucken once said "Those who can - do. Those who cannot - teach!" There are perhaps two further corollaries: "Those who cannot teach - administer. Those who cannot administer become politicians!"

Someone once said that technology is dominated by two types of manager - those who do not understand what they manage and those who manage what they do not understand. Some other wit, possibly with this age in mind, suggested that business consists of two types of person - those who divide people into two types and those who don't!

The incompetence of the individual manager can usually be gauged by his acceptance of new ideas. Put a new and unusual scheme to someone who is flying above his ceiling of competence and his lack of self-confidence, perception, commitment, imagination, etc., will quickly become apparent.

Initial reaction is likely to be something like "It's useless - don't waste my time." If everybody else's reaction is subsequently favourable, his attitude is likely to be modified to "It has possibilities, but it

wouldn't be profitable." However, should the world at large and his peers in particular ignore his pronouncement and become very enthusiastic, he is likely to be heard boasting at some later date "I always knew it had great potential!"

Another less reliable but nonetheless common symptom of the "Peter Man" is the manager who always makes everything much more complicated than it needs to be.

Verbal or written instructions, descriptions, indeed communications of any kind are presented in the most confusing manner, often with considerable emphasis on obscure references and technical gobbledegook.

The simpler the idea, the more apparent the desire for complication. Any manager worth his salt knows how important it is to make every communication as simple as possible. It is what a military friend of mine calls "soldier proof". This is based on the principle that if a piece of equipment can feasibly be broken, no matter how obscure the chance, it will be. Similarly, if an instruction can possibly be misunderstood by someone, you can absolutely rely on this being the case.

Sensitive and aware people are slightly less vulnerable to the trap of the Peter Principle than the arrogant. Those with a degree of foresight can perceive the implications of further career advancement and only move forward when they know without reservation that they are able to handle a heavier job.

Unfortunately, ego and the need for recognition is a powerful force which can often override the common sense of all but the most perceptive individuals. If only those who make the mistake (both the appointee and the appointer) could have the courage to admit to errors of judgment when promotions go wrong and undo the situation by seeking alternatives before real harm is done.

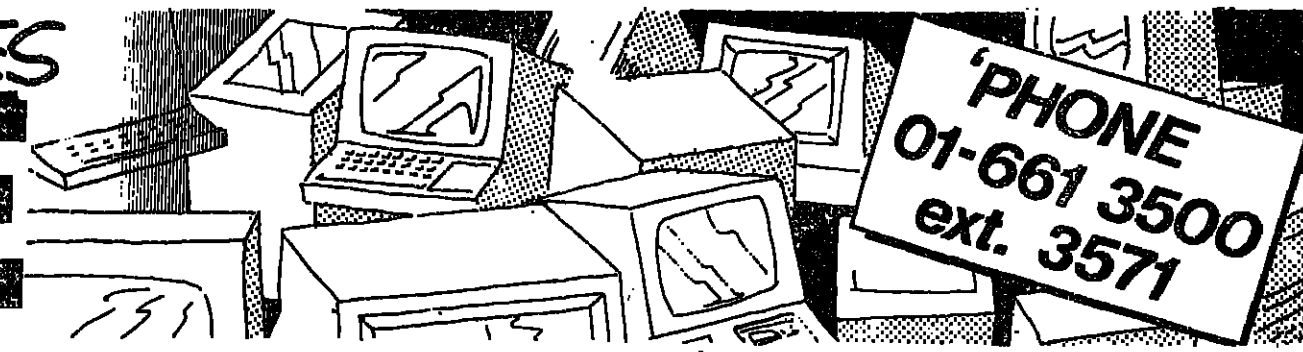
Unfortunately, this is seldom the case. What is more common is to allow a bad arrangement to fester until it becomes a disaster, leaving no option but departure with ignominy accompanied by organisational disruption and at least one shattered individual who feels his career is ruined.

If only every such person realised that, provided the incident is viewed objectively, it could be the most valuable lesson in his life. The victim of the Peter Principle can never find job satisfaction because he can never feel secure. To quote Lincoln once again: "You can fool all of the people some of the time and some of the people all of the time, but you can't fool all the people all of the time."

Alan Williams

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